A Study of the Comparative Effectiveness of Two Methods of Presenting to Parents Information Relative to Speech and Language Development In the Preschool Child

By

ROSABELL RAY BATTIN

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CHAPTER I

INTRODUCTION

Background Material

In the 1951 White House Conference Report on Children and Youth it was estimated that there was a five per cent incidence of speech disorders occurring between the ages of five and twenty-one years. The percentages by type of defect indicated approximately three per cent had functional articulatory defects, seven-tenths of one per cent were classified as stuttering and the remaining one and three-tenths per cent were non-functional defects.[1]

There is evidence in 1957 to show that throughout the nation the incidence of speech disorders among the general population has reached a higher percentage. Milisen has summarized the numerous reports on the incidence of speech disorders among the general population. In this summary he placed the median incidence at fifteen per cent of the public school

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[1]American Speech and Hearing Association Committee on the Mid-Century White House Conference, "Speech Disorders and Speech Correction," Journal of Speech and Hearing Disorders, XVII (June, 1952), 130.

children from kindergarten to the fourth grade who may have seriously defective speech. He found that four to five per cent of the children in grade four and above had speech difficulties severe enough to require remedial work.[2]

The majority of speech problems encountered in the public schools are functional and can be traced back to their onset which is in the early developmental stages of speech and language. Van Riper states:

> The skills involved in speech begin to be acquired as soon as the child is born and are seldom perfectly mastered, even during a lifetime. Much of the speech learning during the first six months is relatively independent of the stimulation given by the child's parents. Even in the crying and wailing of infants the short, sharp inhalation and prolonged exhalation so fundamental to true speech are being practiced. Lip, jaw, and tongue movements involved in the production of all the speech sounds in all the human languages are repeatedly performed. The early awareness of these movements and their accompanying sounds provides the foundations for speech readiness. Throughout the first years of life, there are many ways in which parents can help or hinder the development of speech. Their knowledge or ignorance determines whether the child shall learn to talk because of parents' efforts or in spite of them. Their application of principles so obvious that we wonder why they should ever be violated, will determine whether the child's speech will be an asset or a handicap. Time after time the speech correctionist tries to trace the cause of a stutter or an articulatory defect, only to lose it in the vague parental

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[2]Robert Milisen, "The Incidence of Speech Disorders," Handbook of Speech Pathology, ed. Lee Edward Travis (New York: Appleton-Century-Crofts, Inc., 1957), p. 250.

memories of childhood.[3]

Since speech is a learned process, we might follow the assumption put forth by Van Riper that a speech difficulty rests not only with the child but with the parent who serves as the child's teacher for this important function. Ainsworth qualifies this assumption in the following manner:

> As far as the child himself is concerned, speech develops from his ability to cry lustily, then to enlarge the variety of noises, or sounds, which he makes, and finally to select and apply these sounds in organised patterns (words) which have an established meaning for other human beings with whom he is in contact. But it is the parents who supply these patterns and who interpret them for the child. The ways in which they do these things determine, to a great extent, the eventual adequacy of the child's speech.[4]

In further support of what the parent role consists, Wood found in a study on the relationship between parental maladjustment and functional articulatory defects in children that:

> When the mothers themselves were clinically treated for purposes of alleviating their own problems and securing better adjustment for themselves, their children improved more rapidly under a program of speech correction than did the children of those who were not treated.

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[3]Charles Van Riper, Speech Correction, Principles and Practices (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1954), p. 92.

[4]Wendell Johnson (ed.), Speech Problems of Children (New York: Grune and Stratton, 1950), p. 48.

> Finally we may say on the basis of this study that functional articulatory defects of children are definitely and significantly associated with maladjustment and undesirable traits on the part of the parents, and that such factors are usually maternally centered.[5]

Molyneaux conducted a study in which she compared the environment of children classified by their teachers as having advanced speech development with that of children classified as having retarded speech development. She had two groups of thirty children; each group ranged from four and a half to six years of age. One group was advanced in articulation and language ability and the other group was retarded in articulation and language ability. These groups were matched for age, sex, and I. Q. and they did not include bilingual, physically handicapped, poorly coordinated or mentally retarded children. The parents of both groups were given a questionnaire using the personal interview technique. Her study indicated that:

> The importance of parental attitudes and behavior in the creation of the child's early environment cannot be overemphasized. The two groups of parents included in the investigation were remarkably similar in some respects, but they differed significantly in regard to (1) their attitudes toward the importance of language training in the preschool years of child-

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[5]Kenneth Wood, "Parental Maladjustment and Functional Articulatory Defects in Children," Journal of Speech and Hearing Disorders, XI (December, 1946), 272.

> hood as demonstrated in their actual efforts to foster linguistic skills, (2) their realization of the importance of parent-child companionship and cooperative activities, (3) the consistency and wisdom of their child training techniques, and (4) their estimate of their child's capacity for mature behavior.[6]

> The desire of the parents of the advanced group to encourage language activities in the home and their actual efforts to aid their children in developing verbal proficiency appeared to pay definite dividends in the level of linguistic skill attained by those children. It is interesting to note that in addition to exhibiting greater verbal proficiency in their actual social contacts with others, the children of the advanced group also appeared to exhibit more extensive use of verbal expression in their solitary play activities. . . . The use of language thus appeared to be a pleasurable activity even in social situations.[7]

The importance of parent-child relationships in the development of articulate speech has received additional emphasis in an unpublished study directed by Mower. The relationships of a number of mothers and their infants over a period of many months with special reference to the role of vocalization of mother and infant were observed. Mower states:

> One of the first things discovered was that most mothers -- and particularly those, who, by other criteria, seemed to be the "good" mothers -- kept their infants "bathed in sound" most of their waking hours. While caring for their infants or

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[6]Dorothy M. Molyneaux, "Environmental Factors Differentiating Children of Advanced Speech Development from those with Retarded Speech." (Unpublished Ph.D. dissertation, Stanford University, 1949), p. 209.

[7]Ibid., p. 215.

> just spending leisure time with them, these mothers vocelized almost continuously; end even when other duties took them to edjoining rooms, they would commonly sing or call to the beby intermittently.. . . It seems probable thet much of the motivation for the babbling end cooing that infants normally engage in stems from the fect that the humen voice, by virtue of the circumstences just described, has teken on pleasurable (secondary reinforcing) properties. Although baby's voice does not sound exactly like mother's voice, the similarity will usually be sufficient to cause a carryover of some of the pleasurable qualities of one to the other; and we may surmise that the production of mother-like sounds, in the form of babbling, is a first end highly successful step in the child's progression toward fully articulete speech.[8]

Lewis also stresses the importance of the role which the mother plays. Referring to it as "interchange between mother and child" he points out that:

> Most mothers are happily able to watch their children grow in a normal way--some children more quickly than others. All that is needed is a mother's natural interest in her child, so that she is constantly speaking to him and getting his rudimentery cooing and gurgling in reply.[9]

The value of the role played by parents, especially during the beginning of the child's speech readiness, is likewise emphesized by Stinchfield and Young who believe thet:

> Children develop speech most normally when given encouragement and direction at the age when the speech readiness first begins to be apparent, with

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[8]O. H. Mowrer, "Speech Development in the Young Child: 1. The Autism Theory of Speech Development end Some Clinicel Application," Journel of Speech and Heering Disorders, XVII (September, 1952), 267-268.

[9]M. M. Lewis, How Children Learn to Speak (London: George G. Harrap and Co. Ltd., 1957), p. 37.

> the attempt to name objects or to designate them in words. This is close upon the end of the first year in the average child, but may appear as early as the ninth month in precocious children, and is likely to continue active to about the eighteenth month. With the coming of the second birthday, or around the twenty-fourth month, the most favorable period for speech development may have passed, so that speech subsequently develops much more slowly and with less facility than when it is begun earlier.[10]

Van Riper sums up the beliefs that have been expressed by writers in the fields of linguistics, psychology, and speech pathology regarding the important role that parents play in helping their children achieve normal speech and language in these words:

> The large majority of speech disorders date from early infancy. The child has somehow failed to gain the proper articulation, vocal or fluency skills which normal children master without too much difficulty. Our culture demands a high standard of speech very early in life but few parents know how to teach a child to talk.[11]

As more and more emphasis has been placed upon the effect of environment and parent-child relationship on the development of speech and language in the child, specialists in the field of speech correction have become aware of the need to educate parents of preschool children

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[10]Sara Stinchfield and Edna Hill Young, Children with Delayed or Defective Speech (Stanford, California: Stanford University Press, 1947), p. 18.

[11]Van Riper, Speech Correction, p. 92.

concerning normal speech and language development.

Anderson states:

> There is little doubt that the home is the greatest single influence in shaping a child's speech into the pattern it will eventually assume when he becomes an adult. The speech models involved in the home environment all combine to be a powerful force in determining whether the child's speech develops normally, whether the process is interfered with, or whether serious problems later manifest themselves. While perhaps the pre-school years are the most critical ones in the establishment of speech and language habits the process continues as long as the child remains at home. The problem then, is first one of prevention and later one of cure. The parents' first concern, therefore, is to establish the favorable conditions that will insure normal or superior speech development in their children. The second concern is to discover and apply the proper remedies at the right time in the event speech disturbances do appear.. . . Parents want to do the right thing for their children; what they need is proper guidance for avoiding and modifying the negative factors that may bring on speech problems later and for fostering conditions that will make for normal speech development or will help alleviate the speech problems once it has begun.[12]

Previous to 1950, few books written for parents emphasized a positive means of facilitating normal speech and language growth. Rather, the material was set forth to aid those parents whose children had a speech problem. In 1950, Van Riper wrote a book specifically directed to the parents of young children in which he discusses

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[12]Virgil Anderson, Improving the Child's Speech (New York: Oxford University Press, 1954), p. ix.

the normal development of speech in the preschool child.[13]

While some parents may read material such as that found in Van Riper's book, the great majority of parents of preschool children won't even know it exists. Because there is a need to educate parents relative to their position or role in the development of speech and language in their children, it is desirable to develop a more effective method of disseminating such material. Among the many ways that a wider dissemination of this material might be brought about we are concerned with: (1) presentation of classroom lectures for parents of preschool children, and (2) presentation by television of a lecture series. The major difficulty encountered with the first method would be that of motivating the parents to come to centrally located points where the lecture course could be held. In the second method, parents who had television sets could view the lectures without leaving the comfort of their living room.

Present day statistics indicate that in the United States, an average of four hours and fifty-seven minutes per day are spent in televiewing.[14] Statistics also

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[13]Charles Van Riper, Teaching Your Child to Talk (New York: Harper and Brothers, 1950).

[14]Leo Bogart, The Age of Television (New York: Frederick Ungar Publishing Co., 1956), p. 64.

indicate there are over forty-two million receivers in homes throughout the nation.[15] These figures offer some basis for assuming that parents might be more readily contacted through television. The potential of this medium for adult education has been recognized by the educators and cultural leaders who have been instrumental in establishing thirty-four educational television stations now in operation in twenty-five states and which could be used as outlets for presenting a series on speech and language development. If television were to prove a satisfactory and effective method for presenting information on speech and language development, a series could be recorded on film or video tape and made available through the facilities of the National Educational Radio and Television Center to communities in which there was a commercial television station. Some interested person, presumably a speech correctionist, could then make arrangements to have such a filmed series publicised and telecast through local television facilities.

However, there are several factors to be taken into consideration before a decision can be reached as to which method of parent education should be employed.

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[15] Television Factbook, XXVII (Fall-Winter, 1958), 31.

Before such a project is undertaken the following questions should be answered, (1) do parents desire this type of information, (2) would they be willing to attend and follow such a lecture series, (3) which method of presentation, television or classroom lecture, would be the better means of disseminating this type of information to parents, and (4) is either method effective?

There are other factors that must be considered when looking at the overall picture of these two methods of presentation. In the classroom situation it is always possible for the parent to interrupt the instructor to ask a question. Since the classroom instructor is not burdened by the pressure of time, such as that imposed upon the television instructor, it is possible for those in the classroom situation to receive answers to their questions. They also have personal contact with the instructor. However, because of the seating arrangement usual in the classroom situation, a number of the parents might not be able to see charts and demonstrations easily and clearly.

On the other hand, the television presentation offers each parent a "front-row seat" for each lecture. Because of the technical aspects of television, the parent is able to clearly see each chart and demonstration.

It is obvious that the parent viewer can't interrupt the television presentation to ask questions. However, parents could mail in questions to be answered on the next program or they could telephone their questions in to an assistant who in turn would pass the questions on to the instructor in the studio who could answer them during the television lecture. This procedure of relaying questions to the instructor has been used by KUHT, University of Houston Educational Television Station.

In any event, it is necessary to experiment with both methods of presentation to determine which is accepted as the more effective means of presenting information on speech and language growth in the preschool child.

By the very nature of the television medium, that of its potential coverage and method of communication by sight and sound, it would appear reasonable to assume that here is a means by which specialists in the field of speech correction could give parents direction and guidance in the speech and language development of the child. To determine whether educators in the field of speech correction have utilized television for this purpose, a questionnaire (refer Appendix I) was sent to the thirty-four educational stations now telecasting, and to the office of the National Educational Television and Radio Center in

Ann Arbor, Michigan. The questionnaire was divided into two parts.

The first part concerned itself with whether or not the station had presented a telecourse in the field of speech correction. If so, how many programs were presented, how long did the telecourse run, the year of presentation, and the number and classification of students. It also asked whether the course included material on speech and language development in the preschool child; if so, how many lectures were devoted to this type material. A question was included on whether or not any survey was made relative to the effectiveness of the telecourse method of presenting the material as opposed to presenting the same material in the regular classroom situation.

The second part of the questionnaire concerned itself with whether or not a series of programs in the field of speech correction had been presented. If the answer was yes, they were asked the number of programs in the series, the type of audience for which it was designed, the length of the series, year of presentation, and estimated number of viewers. The questionnaire inquired whether the series included material on speech and language development in the preschool child, and, if so, the number of programs devoted to this type of material.

The station was also asked for the results of any survey conducted relative to the effectiveness of such a series and a description of the experimental design.

The thirty-four educational stations and the National Educational Television and Radio Center returned the questionnaires. Thirty-two reported no telecourse in the area of speech correction while two reported that they had presented such a course. One of the stations was WHA-TV, Madison, Wisconsin. In 1957, they presented a one semester course entitled: "Speech 25, Introduction to Speech Correction," consisting of forty half-hour programs. The course was viewed mainly by college students; however, some of the general public also viewed the course. Forty students were enrolled and a research study was made in conjunction with their viewing of the course. The regularily enrolled students were divided into two groups, one remained in the studio with the instructor while the other watched in a separate classroom over television. Written tests were presented to both groups at the end of the course to determine comparative learning scores. To test comparative effectiveness of primarily visual versus aural styles of exposition, six units of the course were presented by means of specially made kinescopes and the identical units taught verbally. A true-false written examination and a filmed examination were then given.

The primary findings from the research project were: (1) the method of testing affects the apparent efficiency of the method of teaching and (2) comparison of the two conditions of instruction revealed no significant difference in learning between the studio group and the monitor group regardless of the type of examination.

The instructor felt that the use of television had improved the quality of instruction because demonstration of clinical techniques of diagnosis and therapy in speech correction could be handled more efficiently by television techniques than in the usual live class situation.[16]

WQED, Pittsburgh reported that they had presented a thirty-two program, two semester telecourse on speech improvemsnt designed for primary grade children. No research has been carried out in conjunction with the series.

Eight of the thirty-four stations reported that they had presented a short series of programs on speech correction. Of this group, five stated that their programs were aimed at the public in general, two reported that the programs were primarily designed for parents, and one directed the series toward teachers and students. None of

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[16]A detailed report of research findings in connection with this series is to be published as Research Bulletin No. 11 by the University of Wisconsin Television Laboratory.

the eight stations reported having made a survey or study as to the effectiveness of the series.

KOAC-AM-TV, Corvallis, Oregon is presenting a continuing series on speech and language development designed for parents and children. The series has been running approximately six months and there are an estimated 100,000 television sets in the viewing area. WMVS, Milwaukee, presented a four program series on speech correction in 1958 with one of the programs devoted to speech and language development in the preschool child, while the Alabama Educational Television Network originating from Auburn presented a twelve program series in 1957 with approximately three programs devoted to speech and language development in the preschool child. Neither station was able to estimate the number of viewers. KCTS, Seattle, Washington reported four programs devoted to speech and language development in their series which was designed for teachers and students. The remaining four stations had presented a series on speech correction which did not include information on speech and language development.

The Educational Television and Radio Center reported that they had no films in the speech correction and speech science area.

Over the past ten years, there have been television programs broadcast over local and national commercial

stations demonstrating how various speech and hearing clinics diagnose and treat speech problems. In 1953 and again in 1956, Western Reserve University and an affiliate, the Cleveland Speech and Hearing Center, offered over a local, commercial station a telecourse entitled, "Your Child Learns to Speak."[17] This series was presented as a university course for which students could receive three hours of credit under the academic listing of "Introduction to Speech Correction." The purpose of the course was listed as:

> (1) to present a qualified university course for beginning students in speech and hearing therapy, (2) to discuss the training procedures and the professional needs of children with speech and/or hearing problems, and (3) to initiate an interest and awareness in parents so that some speech or hearing problems might be prevented.[18]

No attempt was made to evaluate the effectiveness of presenting this material over television.

When attempting to evaluate television for educational purposes, one is immediately aware of the tremendous educational potential which this medium has to offer. Newsom, in his summary report of the Televisions Institute held in 1952,

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[17]Nancy Wood, Your Child Learns to Speak; Telecourse Home Study and Guide (Cleveland: Western Reserve University, 1952).

[18]Nancy Wood, "Televised Speech and Hearing Therapy," Journal of Exceptional Children XXII (January, 1956), 152.

listed the assets of television as: (1) large audience can be influenced, (2) television goes right into the home, (3) people and properties can be utilized better, (4) simultaneity adds effectiveness and (5) television can teach. In explaining this fifth item, he states:

> Participants in the institute believe that there is now convincing evidence from numerous experiments that television can be utilized successfully as a teaching medium. Whether it be the experience with the telecourses at Western Reserve University, or the experiments at Syracuse University, or at the Special Devices Center of the United States Navy, at Port Washington, Long Island, all agree that television is an effective educational medium. Evidence indicates that television is as effective as traditional class-teaching in the amount learned and retained.[19]

In order to test the effectiveness of television as a teaching tool, research projects were set up and conducted by students working for advanced degrees. However, Kumata, in reviewing the research that has been conducted in this area states that it lacks quantity and quality.

> Actual performance has far outstripped evaluation in instructional television programming. This lag, taken by itself, is not disheartening. Indeed, it bespeaks a faith and enthusiasm in instructional television even though concrete evidence on many points may as yet be lacking. It is the relationship of evaluation to practice which should merit serious attention.[20]

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[19]Carroll Newsom, "Use of Television in Education," A Television Policy for Education: Proceedings of the Television Programs Institute (Washington: American Council on Education, 1952), pp. 140-141.

[20]H. Kumata, An Inventory of Instructional Television Research, (Ann Arbor: Educational Television and Radio Center, 1956), p. 1.

Research projects which utilize television are difficult to construct because of the restrictions imposed by the medium. Some television research has been discredited because the individual setting up the problem attempted to evaluate instructional programs which had already been aired. This resulted in trying to fit the questions to a set program rather than preparing the experimental design prior to the presentation of the program. A second difficulty is finding adequate criteria for measuring program effectiveness. A third problem is the inability to establish adequate controls. In the fourth place, if an attempt is made to establish better controls the studies are forced into closed-circuit and a captive audience situation. Finally, there is difficulty in getting representative audience sampling.

One of the important questions raised in connection with this research has been, how do students taught by means of television compare with those taught in the regular classroom situation? Most of the investigators have found that students taught by television have done as well as students taught in the regular classroom situation, and on occasions, the television students have achieved higher academic standing. In an attempt to evaluate television and regular

classroom lectures, Evans, Roney, and McAdams[21] studied the effectiveness of television instruction in two college level courses offered over KUHT-TV, at the University of Houston. An elementary psychology course and an elementary biology course were chosen for the investigation. In the psychology course, comparisons were made between ninety-six students in an on the campus lecture section, seventeen students enrolled in a section for the television lecture followed by correspondence work, and thirty students enrolled in a television, supplemented by campus-discussion section. In the biology course, two groups of seventy-eight students matched for college class, grade and sex were used in television and non-television sections. The authors report that their findings show no significant difference among test scores for the groups in the psychology sections nor for the television and non-television sections taking biology.

Rock, Duva, and Murray[22] presented a series of

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[21]R. I. Evans, H. B. Roney, and W. J. McAdams, "An Evaluation of the Effectiveness of Instruction and Audience Reaction to Programming in an Educational Television Station," Journal of Applied Psychology, XXXIX (1955), 277-279.

[22]R. T. Rock, Jr., J. S. Duva, and J. E. Murray, Training by Television: The Comparative Effectiveness of Instruction by Television, Television Recordings, and Conventional Classroom Procedure, SDC Report 476-02-2, (Port Washington, L. I., N. Y.: Special Devices Center, NAVEXOS P-850-2, no date).

eight one-hour telecaets concerned with different phaeee of an Army division'e operation in an encounter. The eubjecte were 3000 army reeerviete, representing almoet all branchee of the army, and ranging in rank from private to colonel. The reeerviete were eelected from reserve headquartere in ten different citiee, and viewed the eeriee in their reepective locatione. Profeeeional actore were ueed in each of the eight programe. Learning wae meaeured by multiple-choice type queetione and a pre-teet and poet-teet wae given for every program except the firet. A number of the pre-teet queetione were ueed to meaeure retention from one to eix weeke after the preeentation of a eingle program. Queetionnairee deeigned to check reactione toward televieion inetruction were preeented at the end of the final eeeeion, and a rating ecale for reactione to the entire eeriee wae aleo preeented.

The findinge revealed that all eubjecte made higher ecoree following the telecaet. Thie gain held true for all groupe when they were categorized according to rank. Four-fifthe of the pereone in the groupe reported that the eeriee wae intereeting or very inter-eeting and a majority of the group judged the eeriee ae good or excellent. Three-fourthe of the men etated that they preferred being taught by televieion rather than by any other method.

The investigators, after analyzing the programs, stated that narration by itself or combined with other forms of teaching was extremely effective. They felt that drama used as the sole means of presenting material was the least effective.

Shimberg[23] evaluated the effect of teaching the American Red Cross home nursing course by television. He used three experimental groups; the first received all instruction by television, the second received a weekly practice session in addition to the television instruction, and the third received its instruction in a regular classroom situation without television. The television groups viewed thirteen half-hour programs twice a week while the regular classroom group attended seven two-hour lectures with demonstrations and supervised practice. The television groups met in Houston while the classroom group met in Oklahoma City. Comparisons were made between the groups on a battery of pre-tests and post-tests. There were seventy-seven in the television only group, forty-three in the television and practice group, and two hundred and seventeen in the classroom group.

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[23]Benjamin Shimberg, Effectiveness of Television in Teaching Home Nursing, (Princeton, New Jersey: Educational Testing Service, Research Bulletin - RB-54-19, August, 1954) (duplicated).

The findings suggest that television instruction was as effective as the classroom instruction for teaching home nursing. It must be noted here, however, that the groups were not well matched for locale, number, or length and number of lecture periods and there was no mention of an attempt at control of such factors as age, intelligence, and socio-economic level.

Tannenbaum reports two comparative studies on instruction through television.[24,25] The first was a study presenting material in periodontics to practicing dentists in six states. The procedure was as follows: One group viewed three one-hour lecture-demonstrations presented over closed-circuit television with a fourth summary hour which was used to answer questions raised during the previous lectures. Each person in this group was provided with a supplementary manual. A second group heard only the sound portion over a telephone hookup plus viewing film-strip visual aids. A third group studied only the manual. A fourth group watched a kinescope recording approximately one month after the live series.

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[24]P. H. Tannenbaum, Instruction through Television: A Comparative Study (Urbana, Illinois: Institute of Communication Research, University of Illinois, June, 1956) (mimeographed).

[25]P. H. Tannenbaum, Instruction through Television: An Experimental Study (Urbana, Illinois: Institute of Communication Research, University of Illinois, 1956) (mimeographed).

A fifth group, used as a control, consisted of dentists who neither saw the television series nor the manual.

The live television group comprised of two hundred and four dentists, one hundred and sixty of which received a thirty-five multiple choice examination after seeing the first three programs while the remaining forty-six were tested after viewing the summary hour. There were ten dentists in the telephone group, twelve in the manual only group, forty in the kinescope group, and one hundred and thirty-eight dentists in the control group. No pre-testing was done. In analyzing the test, it was found that eight of the thirty-five questions were not covered either in the manual or the telecasts and nine of the questions were covered only in the telecast.

All of the experimental groups did better on the test than the control group. Using the 't' test, the mean differences were reported significant with the exception of the comparison between the control group and the manual only group.

The second study was made of three hundred and fifty-six students in a basic physiology course at the University of Illinois Medical School. The students were divided into two groups which were equated on the basis of their mid-term grades. The first group of one hundred

and eighty-nine students received regular classroom instruction in a lecture hall in the presence of television cameras; the second group of one hundred and sixty-seven students received their instruction through closed-circuit television. Three fifty-minute lectures on the human respiratory system were given on consecutive days. An unannounced nineteen-item multiple choice test covering the material presented in the three lectures was given to all students.

The test results were studied using analysis of the variance to test whether differences could be found between the lecture and television groups as a whole, whether sub-groups (first and second year medical students, dentistry, and graduate students) differed among themselves, and whether there was any interaction between any of the sub-groups and the method of instruction. Comparisons of the mean scores showed a difference at the seven per cent level of confidence in favor of the television group. A preference scale was presented to the television group.

On the basis of this scale, a comparison was made between the test scores of those who were favorable to television instruction, those who were neutral to television instruction, and those who were unfavorable to

instruction by television. The results indicated that those who were favorable or neutral to instruction by television did significantly better on the examination than those who did not favor this form of instruction.

An experiment in mass media and learning was conducted by Williams[26] at the University of Toronto. One hundred and eight undergraduates of the University were used. They were divided into four groups containing an equal number of high, average, and low students. Each group was arbitrarily assigned to a classroom lecture, a lecture by television, a lecture by radio, or to read a mimeographed copy of "Think through Language" a subject unfamiliar to all the students. The lecturer simultaneously presented his material to the lecture group, the television group, and the radio group. During this time, the fourth group read the talk. Key words in the reading material were capitalized in an attempt to compensate for lack of sound and/or sight and to help show the emphasis given in the lecture. A post-test, containing nineteen multiple choice questions and one essay type question to be answered in two hundred to three hundred words, was presented immediately following the lecture.

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[26]D. C. Williams, "Mass Media and Learning--An Experiment," Explorations, III (1954), 75-82.

The results showed that learning by television was superior to radio. These findings were significant beyond the one per cent level of confidence. Radio was superior to reading at the five per cent level of confidence. There was no significant difference between the lecture group and the group which read the material. The same findings held true when the test scores were evaluated in terms of the students' academic ability with the exception of the lecture group which was last in amount learned among the high and low groups but equal to television for the average group. However, it must be noted that the lecture group met in a studio type setting with accompanying distractions of lights, equipment and personnel for broadcasting.

A comparison between psychology classes taught under four different reception conditions was made by Husband[27] at Iowa State College. The four conditions studied were: (1) television at home; (2) studio class; (3) kinescope class; and (4) two campus classes. In the first condition, all lessons were viewed over television at home with the students coming to the campus for examinations. In the second condition, ten students

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[27]R. W. Husband, "Television Versus Classroom for Learning General Psychology," American Psychologist, IX (1954), 181-183.

at a time made up a etudio class for the television presentation, while the rest viewed the lessons on a monitor. The kinescope claee was obtained in a later quarter with campus etudents viewing kinescope recordinge of the claee ae well as engaging in twenty minutes of informal diecussion following each lesson. The two campus claeses received regular classroom instruction. The instructor was the eame for all groupe and the material covered was the same. Each television eeesion was thirty minutee long while the claesroom lecture laeted fifty minutes. All participante were regularly enrolled college students except the television home group. Only the number of participants for the televieion at home condition was given. Fifty-four out of fifty-eix pereons enrolled finiehed the course by passing all the tests. Of thoee completing the course, fifty were women and four were men. The age range wae from eighteen through sixty-five with a median of thirty-eeven. The median age for the high echool graduatee wae twenty yeare of age. Thirty-one of the group had no college credit, twelve had some, eleven had one to two years of college, and three had two yeare or more.

Using high point average for the course ae a means of comparison, the author found that the group

receiving television instruction at home had a higher grade point average than the group receiving television instruction in the studio and the two regular classroom groups. The highest grade average was achieved by the group receiving instruction from a kinescope recording. There was no test of significance mentioned in the article.

While experiments studying the comparative effectiveness of television presentation and regular classroom presentation have been conducted for elementary, secondary, and college classes, no known research of this nature has been conducted in the area of speech pathology and audiology. However, a number of audience surveys in connection with telecourses and adult education type programs have been reported. Halpern[28] conducted two surveys, one in May and the other in June, 1953, of Cleveland residents with respect to the telecourses offered by Western Reserve University. Three hundred and three telephone calls to a random sample of Cleveland residents were made on the first survey while the second consisted of seventy-one intensive interviews of telecourse viewers.

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[28]W. G. Halpern, The Western Reserve University Telecourse Audience (Cleveland: Western Reserve University, 1953) (mimeographed).

On the basis of the two surveys the following conclusions were drawn. (1) Approximately 6,000 adults representing one and two-tenths per cent of the television families and twenty per cent of those who viewed at nine a.m. viewed each day. (2) The telecourse viewers were predominately female with an average of plus one year of college. Those males who viewed had an average of two and a half years of college. (3) Those who continued viewing had more education and had been away from school for a shorter period of time and had less distractions at home during the television time. (4) Viewers tend to prefer those courses which aid in everyday living.

Lynch[29] interviewed seven hundred and sixty-four viewers in the metropolitan Detroit area. He was investigating the size, composition, and viewing habits of the audience for the University of Michigan Television Hour. He found that one-half of the television set owners in the Detroit area viewed the program. Two-thirds of this group reported seeing the program within the six month period previous to the study and one-fourth viewed

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[29]James E. Lynch, "A Study of the Size and Composition of the Viewing Audience of an Educational Television Program in the Detroit Metropolitan Area." (Unpublished Ph.D. dissertation, Department of Speech, University of Michigan, 1955).

the program one to four times a month. The audience included all ages. College educated people were more likely to view, however, a considerable number of high school and grade school background people also viewed the program. Viewing was relatively high at all income levels. The viewers were not limited to any particular occupational level.

A number of the studies reported stressed that a straight lecture approach was most satisfactory for television presentation. This was substantiated by Vernon[30] who conducted a study on perception and understanding of instructional television programs. He found that important statements and generalizations were less likely to be remembered if they occurred near the end of the program. He also found that the more discussion there was in the program, the less accurate was recall. He concluded that if learning is to occur at an optimum rate, one commentator presenting facts and statements in a straightforward manner is best. Evans supports this, at least in part, when he states; "an informal lecture combined with skillful use of the blackboard may be a preferred method of

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[30]M. D. Vernon, "Perception and Understanding of Instructional Television Programmes," British Journal of Psychology, XLIX (1953), 116-126.

television presentation."[31]

A summary of the findings of the research of television as a teaching method has been presented by Wischner and Scheier. They state:

> A major conclusion warranted by all of the research findings is: TV can teach. Within the range of subject matters and student groups investigated, TV groups generally learn as well as regular instruction groups. In some instances TV groups achieve significantly better than their controls. With respect to retention measures, TV groups do as well as regularly instructed groups.. . . Present research indicates that television is neither much better nor worse for straightforward lecture and blackboard presentation.[32]

These research findings must be viewed cautiously since proper experimental controls were not always operating and environmental and sampling biases were noted. It is important to be aware of the shortcomings of the research that has been conducted; however, this must not overshadow what has been shown relative to the educational properties of television. From this research, we find indications that television can be used effectively for adult education. The method of presentation which has proved most effective is the straight lecture with accompanying charts and demonstrations.

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[31]Richard I. Evans, "The Planning and Implementation of a Psychological Series on a Non-commercial Educational Television Station," The American Psychologist, X (October, 1955), 603.

[32]G. J. Wischner and W. H. Scheier, "Some Thoughts on Television as an Educational Tool," The American Psychologist, X (October, 1955), 613.

The Purpose of the Study

This study seeks to determine which of two methods, a television presentation or a regular classroom lecture, is the more effective means of presenting basic information relative to speech and language development in the preschool child. The specific aims of the study are to determine:

1. What if any changes occur in the response of a group of mothers of preschool children to a series of statements pertaining to the normal speech and language development in the first year of life after receiving information on this development?

2. Is there a difference in the evaluative judgements made toward a group of statements pertaining to speech and language growth in the first year of life by a group of mothers who received information about this subject by means of a didactic lecture presented over television as compared with a similar group of mothers who received the same material in a classroom lecture?

3. Did the mothers who viewed the television program feel that a series on this subject would be of value to them?

4. Did the mothers who attended the lecture feel a series on this subject would be of value to them?

5. Did the mothers who viewed the television program feel that a lecture series would be of equal or greater value to them?

6. Did the mothers who attended the lecture feel a television series would be of equal or greater value to them?

CHAPTER II

PROCEDURE

Experimental Design

The first salient step in any type of research is to delineate the problem so that maximum controls can be utilized and a clearly outlined project can be studied. Therefore, the author consulted Dr. Richard Evans[1] and Professor Solomon Tannenbaum[2] with regard to the number of programs to be used in a television and classroom lecture series. They advised that controls over time, environmental influence, and other informational sources would be lost if time elapsed between the presentation of the material and the testing situation. Because of such inherent factors it was strongly advised that only one television lecture and one classroom lecture be used in the experiment. Thus, the experimental design consisted of selecting a stratified audience of one hundred mothers

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[1]Dr. Evans is professor of psychology, University of Houston, Department of Psychology. He has conducted several audience research projects for the National Educational Television and Radio Center.

[2]Mr. Tannenbaum is professor of sociology, University of Houston, Department of Sociology and Anthropology.

of preschool children to come to a pre-determined place on a given date. One half of this group televiewed a lecture on speech and language development occurring in the first year of life (0 days to one year). The other half of this group received the same lecture material, presented by the same instructor who utilized the same visual aid materials, in a regular classroom situation. Identical test instruments were used to pre- and post-test each group relative to the material presented.

Designing the Television Program and Lecture

It was necessary to do extensive library research in order to prepare a lecture on the subject of language and speech growth from zero days to one year, which could be used both on television and in the classroom situation. The material for the two lectures was taken from original research and books by specialists in the fields of linguistics, pediatrics, child psychology, and speech pathology. An attempt was made to evaluate this material so that the most recent and factual material could be presented. Thus, a thirty-minute lecture was prepared in television script form (Appendix II). The material was designed to be presented in the didactic manner, utilizing charts, drawings and a recording, in order to obtain emphasis and to aid retention. The script was written in such a way that it

could be used as the classroom lecture. The accompanying charts and drawings could also be used in the classroom situation. The recording was used with appropriate visuals during the lecture on television. However, the recording was omitted from the lecture presentation. Instead, the lecturer read the selection which had been recorded.

The art director of KUHT-TV was consulted on the proper ratio, type of material, size of lettering and coloring to be used on the charts and drawings. Following the discussion with the art director, it was decided to pay an artist to design and build the charts and drawings to assure meeting the specifications of the television station and still have them meet requirements for classroom presentation (Appendix III).

A recording of a mother talking to her child was cut by a professional actress using material from Van Riper's Teaching Your Child to Talk.[3]

Arranging for the Program and Lecture

Initially, it was planned to use the facilities of KUHT-TV, the University of Houston Educational Television Station, to present the lecture over closed circuit, with the television group viewing in an auditorium equipped with

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[3]Van Riper, Teaching Your Child to Talk, pp. 32-34.

monitors. However, because of the heavy air schedule, as well as the closed circuit teaching schedule, of the Radio, Television and Film Center of the University, and the heavy scheduling of the auditorium by the University, a definite time could not be established which would be convenient for the mothers of young children. Therefore, the KUHT program director re-arranged programs in order to provide the author thirty minutes of open circuit time at seven o'clock on the evening of April 29th, 1958. Thus, the program was scheduled as an actual on the air telecast. However, to facilitate control, the experimental groups were required to come to the campus at a designated time. The television group was placed in two classrooms equipped with three monitors each and set up to handle twenty-five individuals each. A small amphitheater type classroom in the Science Hall at the University of Houston was reserved for the classroom lecture.

Once the air time was established, arrangements were made with the program director for the director, cameraman, floor manager, audio engineer, video engineer, and crew for setting lights, set, and props. A meeting was arranged with the art director of KUHT to plan background and props.

Preliminary Interview

Before designing the test to be administered to

the subjects before and immediately following both lectures, a preliminary interview of twenty-five mothers of preschool children living in a middle-class neighborhood was run. Using a schedule form of interview, the examiner attempted to determine existing attitudes, knowledge regarding the subject, and degree and intensity of attitudes. Eight open-end questions were used on the schedule (Appendix IV). The examiner assumed the role of seeking information for the development of a television series, thus placing the interviewee in an authoritarian position. Twenty-four of the mothers interviewed were housewives while one was a schoolteacher in the elementary grades. The fathers' occupations ranged from sales to professional work with forty-eight per cent classified as professional, forty per cent as managerial or self-employed, and twelve per cent as salesmen. Thirty-six per cent of the mothers had completed high school but had no additional schooling. Sixty-four per cent of the mothers had from one to four years of college while seventy-six per cent of the fathers had from one to four years of college. Twenty per cent of the fathers had acquired additional training beyond the A. B. degree, one having received the M. D. degree.

Designing the Test

The information received from the preliminary interview served as a guide in designing the test to be

administered just preceding and immediately following the presentation of the lecture material. An attempt was made to design an instrument that would test more than the ability to parrot back information received. Therefore, it was decided to adapt the evaluative dimension from Osgood's Semantic Differential[4] to a series of statements pertaining to speech and language growth during the first year of life in order to receive an indication of direction and intensity of change. Thirty statements were judged against three pairs of adjectives with intervals of seven points. The test was pre-tested using five sets of alternatives--meaningful-meaningless, believing-skeptical, true-false, good-bad, and important-unimportant--with five mothers to check ease of administration and clarity of statements.

On the basis of the mothers' response to the scales and the time required in completing the five judgments for each of the thirty statements, two of the sets of alternatives were eliminated from the final test form. The remaining scales were true-false, meaningful-meaningless, and believing-skeptical. These sets of alternatives were considered to be measuring the same thing since factor analysis[5]

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[4]Charles E. Osgood, George J. Suci, and Percy H. Tannenbaum, The Measurement of Meaning (Urbana: University of Illinois Press, 1957).

[5]Ibid. pp. 53-61.

had shown them to be highly loaded in the evaluative dimension. Each question appeared three times, each time with a different pair of adjectives. In an attempt to avoid a "halo" effect, the question order was chosen at random. The pair of adjectives was in turn randomly assigned to each question. In order to offset any patterned response by the subject, the poles for the adjectives were varied (Appendix V).

A second part to the post-test was designed. It included questions pertaining directly to the attitudes regarding the program and lecture (Appendixes VI and VII).

Selection of Subjects

In order to obtain subjects for the experiment, the ministers of churches falling within a five mile radius of the University of Houston campus were contacted. The purpose of the study and the need for mothers of preschool children to participate in the research was carefully explained. Permission was requested to contact the educational directors of the churches to enlist their aid in obtaining subjects. Twenty-one churches representing eleven denominations and one synogogue were visited. The ministers and rabbi were particularly enthusiastic regarding the program. In every instance, permission was given to talk with the educational director. Each director in

turn received a careful explanation of the purpose of the experiment and the need for subjects. The directors were asked to provide a list of mothers of preschool children in their church. Several suggested, and all agreed, that a notice be placed in the church bulletin to the effect that KUHT of the University of Houston needed a group of mothers of preschool children to view a pilot program and participate in a classroom lecture on child development. If interested the mothers were to contact the church office. At the same time, the educational directors made a similar announcement at the various church organizational meetings. The directors presented their lists of interested mothers to the writer. Three hundred and sixty-seven names were received.

The names of the mothers were taken in the order presented and numbered from one to three hundred and sixty-seven. Those names receiving an even number were sent a letter requesting them to appear on the Campus at 6:15 p.m. to help evaluate a pilot program for a new television series on child development (Appendix VIII). A similar letter was sent to the names receiving the odd numbers requesting them to come to the Campus at 6:45 p.m. to help evaluate a pilot lecture for a new classroom lecture series on child development (Appendix IX). Return addressed cards were enclosed with the letters.

The cards provided space for the name, address, and telephone number of the individual agreeing to participate in the experiment. Ninety-two cards were returned. One week prior to the date of the program, a reminder was sent to those who had returned the cards. During the week preceding the program, a number of mothers called the University television station and apologized for not being able to attend because their children had measles or chicken pox. Both diseases were at epidemic proportions in the city. In addition, tornado warnings were out on the evening of the program. In spite of these handicaps, sixty-two participants appeared, thirty-five to view the television program and twenty-seven to attend the lecture.

Airing the Program

The television program was broadcast live over KUHT-TV, the University of Houston Educational Television Station, from seven to seven-thirty in the evening. A regular announcer introduced the program and the author served as the lecturer on the program. The material of the lecture was presented in a didactic manner. Two cameras were used. Visual aids and charts were incorporated into the lecture to help clarify or reinforce certain points. The visual aids and charts were in alternating order on two

easels, one on either eide of the lecturer. In this way, as the lecturer completed her diecussion of a chart, she moved away from it, thus providing time for the floorman to remove the chart from the previously used easel and prepare the next to be presented.

Presenting the Lecture

At the close of the television lecture, the author moved to the amphitheater in Science Hall. She was introduced to the audience by the proctor who had given the pre-lecture test. An introduction comparable to the television introduction was used. The lecture followed in exact form that of the televieion lecture, however, in the claesroom situation, the visual aids and charts were handled by the speaker. This fact, plus the visual interplay between epeaker and audience, increaeed the lecture time to approximately forty-five minutes. As no question-answer period could be permitted during the television lecture, it was neceseary to omit a queetion-answer period from the claseroom lecture even though the audience requeeted it.

Pre- and Poet-teeting

Three graduate etudents in the Radio-Television Department of the Univereity of Houston were hired to eerve as proctors during the teeting and to give the test

instructions. These students received careful briefing regarding the administering of each test. Two students were assigned to the television audience and one to the lecture audience. As the group arrived to view the television program, they were directed into the two rooms set up for viewing. Each desk-chair in these two rooms held a packet containing a sealed pre-test and post-test marked Test A and Test B and two sharpened pencils. Promptly at 6:30 the proctors instructed the group to open Test A. The instructions were read and a sample question was written on the blackboard. At 6:35 the test began.

Pre-testing had shown the test required approximately fifteen to twenty minutes to complete. The group was instructed to work quickly and to record their first impressions or feelings. At 6:58, the group was instructed to place Test A on the shelf under their desk chairs and the television sets were turned on. No talking was permitted during the test, the lecture, or during the time between the test and the lecture. Following the program, the group was permitted to get a drink of water and stretch; however, they were asked not to discuss the program or the test. They then returned to their respective rooms. The test instructions were re-given orally. The group was instructed to break the seal on Test B and to complete

parts I and II. The proctors collected the tests as they were completed. Quite a few of the mothers remained after the test to talk with the proctors and to comment on the lecture.

The group arriving to hear the classroom lecture came directly to the room in Science Hall. The test packets were on the seats. The group received the same test instructions as the television group. At 7:05, the lecture group began Test A. Because of the seating arrangement in the amphitheater, it was necessary to collect Test A upon completion. At 7:35, the lecturer was introduced. Upon completion of the lecture, the speaker left the room. The group was given an opportunity to get a drink of water and then the proctor proceeded with the oral instructions for Test B, parts I and II.

Treatment of Test Data

Throughout the designing of the tests, the author was in contact with the Computing Center of the University of Houston in order that the test data could be coded for use on IBM cards. The test data from Test A and Part I of Test B were coded and punched on IBM cards using the IBM card punch machine 026. The material was rearranged and re-punched so that the true-false, meaningful-meaningless, and believing-skeptical answers to the questions would fall

in order. To accomplish this, it was necessary to use the IBM card sorting machine (#082), reproducing punch (#579), and computing machine (#650). The material was then analysed to determine whether there was any significant difference of the means or population variance between the pre-test results of group I and II, the post-test results of group I and II, the pre-test and post-test results of group I and the pre-test and post-test results of group II. The 't', sign, 't^2', statistical tests were used for comparing the before and after test results of a single group. The 't' and F statistical tests were applied when comparisons were made between the two groups.

The material contained in Part II of the post-test was coded. A comparison of percentages and an analysis of the subjects' comments was made. A 't' ratio was computed for significance of the difference between percentages wherever a difference between the responses of the two groups occurred.

CHAPTER III

ANALYSIS OF THE DATA

Introduction

As stated in the preceding chapter, sixty-two mothers of preschool children came to the campus of the University of Houston to attend a lecture on speech and language development in preschool children. Thirty-five of these mothers listened to a television lecture on this subject while twenty-seven of the mothers heard the same lecture presented by the same instructor, but in a classroom situation. Both groups were tested relative to their knowledge of speech and language growth in the first year of a child's life before attending their particular lecture and immediately following their lecture. The same test instrument was administered prior to and following the lecture. It consisted of thirty statements pertaining to speech and language growth during the first year of life. These statements were judged against three pairs of adjectives, each pair arranged on a seven-point scale. In addition to the pre- and post-test, both groups received a second test following the lecture. This test pertained to the method of presentation, general interest of subject

matter, and whether they would like to have additional information regarding this subject. Following the administering of the tests, the information contained therein was coded, tabulated on IBM machines and a statistical analysis was done.

Group Variables

In order to determine the homogeneity of the experimental groups, a comparative analysis was made between the variables of these two groups. These variables consisted of age, education, employment of the mothers and fathers, and the number of children in the family. A standard error of the difference and 't' ratio was obtained for the mean age and education for the mothers and fathers. As shown in Table 1, no significant difference for these factors existed.

TABLE 1

PARENTAL AGE AND EDUCATION

Category	D*	SED	t
I MA with II MA	0.63	1.3	0.48
I FA with II FA	0.86	1.62	0.53
I ME with II ME	0.48	0.45	1.07
I FE with II FE	0.37	0.31	1.19

*Difference in favor of underlined group.

Tables 2 and 3 compare the groups for mothers' and fathers' employment. The mothers of both groups fell into two categories, professional and housewife. Nine per cent of the mothers in the television group and seven per cent of those attending the classroom lecture were classified as working outside the home in a professional capacity. Ninety-one per cent of the television group and ninety-three per cent of the classroom lecture group were classified as housewives.

TABLE 2

MOTHERS' EMPLOYMENT

Category	TV - N=35		Lecture - N=27	
	No.	%	No.	%
0 - Laborer - Non-skilled	0	00	0	00
1 - Semi-skilled.	0	00	0	00
2 - Skilled	0	00	0	00
3 - Clerical, Sales	0	00	0	00
4 - Managerial - Self-employed. .	0	00	0	00
5 - Professional.	3	09	2	07
6 - Protective Services	0	00	0	00
7 - Housewife	32	91	25	93

The occupational spread for the fathers of the groups ranged from skilled through the professional level. The

TABLE 3

FATHERS' EMPLOYMENT

Category	TV		Lecture	
	No.	%	No.	%
0 - Laborer - Non-skilled	0	00	0	00
1 - Semi-skilled.	0	00	0	00
2 - Skilled	2	06	0	00
3 - Clerical, Sales	8	23	6	22
4 - Managerial - Self-employed. .	5	14	8	30
5 - Professional.	19	54	13	48
6 - Protective Services	1	03	0	00
7 - Housewife	0	00	0	00

television group had a wider range with six per cent listed as skilled laborers, twenty-three per cent as clerical-sales, fourteen per cent as managerial or self-employed, fifty-four per cent as professional, and three per cent as protective services. The latter represented one individual serving as a pilot in the air force. Twenty-two per cent of the fathers in the classroom lecture group were classified as clerical-sales, thirty per cent as managerial or self-employed, and forty-eight per cent as professional. As the other variables were closely aligned and since the mothers were the participants in the study, the author did not feel that the difference

in occupations shown here would have any bearing on the results of the study.

As shown in Table 4, the average number of children for each group was 2.3.

TABLE 4

NUMBER OF CHILDREN

	TV	Lecture
Range	1 - 5	1 - 4
Average	2.3	2.3

There appeared to be little or no significant difference between the two groups when compared for age, education, employment of the mothers and fathers, and the number of children in the family.

Pre-test and Post-test Results

All pre- and post-test data were coded and tabulated on IBM machines. An analysis of these tabulations was then made. In checking over the individual test item responses, it was noted that both groups predominantly responded to question twenty-two in a negative rather than the anticipated positive direction on the post-test. In rechecking the lecture notes with this particular test item and in light of this interpretation, an ambiguity appeared. Therefore, the

statistical analysis of test scores was done twice, once with item twenty-two included and once with it omitted from the test scores.

The first step in analysing the data was to determine whether a significant difference existed between the means of group I, the television group, and group II, the lecture group, on the pre-test, i.e. either to accept or refute the null hypothesis that no difference existed, and to check for pre-test population variance, i.e. to accept or reject the null hypothesis that the two samples came from the same population. Therefore, a 't' ratio and F ratio were computed. As is shown in Table 5, there was no

TABLE 5

GROUP I WITH GROUP II -- BEFORE

Total --- Means	D*	SED	't'
With #22			
I Before	4	9.53	0.420
II Before			
Without #22			
I Before	5	9.21	0.54
II Before			

*Difference in favor of underlined group.

significant difference between the pre-test means for group I and II; therefore; the null hypothesis stands.

There was a shift in the direction of the obtained difference between the means with group II having the larger score by four points when the analysis was made with item twenty-two included, and group I having the larger score by five points when item twenty-two was omitted. We must also accept the null hypothesis that there was no difference in the ratio of population variance (Table 6) for the two groups in the pre-test situation.

TABLE 6

VARIANCES - GROUP I AND II -- BEFORE

Category	s^2	F
With #22		
I Before	1119	1.46
II Before	1630	
Without #22		
I Before	1072	1.47
II Before	1581	

The second step was to compute the 't' ratio and F distribution for the post-test results for group I and II. With item twenty-two included, a significant difference was noted at the .02 level of confidence with group II having

the larger mean score (Table 7). With item twenty-two omitted, a significant difference was noted at the .05 level of confidence in favor of group II.

TABLE 7

GROUP I WITH GROUP II -- AFTER

Total --- Means	D*	SED	't'	p
With #22				
I After	26	10.56	2.46	.02
II After				
Without #22				
I After	24	10.17	2.36	.05
II After				

*Difference in favor of underlined group.

Table 8 shows that the comparison of the sample variances, with and without item twenty-two, yielded an insignificant F.

To summarize the findings thus far, no significant difference of the mean scores for the two groups was demonstrated on the tests prior to receiving the information. However, following the receipt of information through the respective lecture situations, group II, the group receiving information in the regular classroom situation, demonstrated a significantly greater gain in the testing situation.

TABLE 8

VARIANCES - GROUP I AND II -- AFTER

Category	s^2	F
With #22		
I After	1646	1.06
II After	1739	
Without #22		
I After	1487	1.14
II After	1693	

A comparison was made between the test results for group I before and after receiving the information both with and without item twenty-two. The same comparison was made for group II. Since this comparison was between the means of related groups, the sign test rather than the 't' test was used. 't^2' was computed to compare the variance of related groups and to test the hypothesis that no genuine change in variance had occurred. In all four instances, a significant difference was noted between the means of the before and after tests at better than the .0001 level of confidence. There was no significant change in the variance of either group on the before and after test (Table 9).

TABLE 9

COMPARISON OF BEFORE AND AFTER SCORES

Group	z	p	t^2
I Before - I After with #22	5.75 (after)	less than .0001	less than one
I Before - I After without #22	5.75 (after)	less than .0001	less than one
II Before - II After with #22	6.20 (after)	less than .0001	less than one
II Before - II After without #22	6.20 (after)	less than .0001	less than one

Following the comparison of the means of the total test scores, the results for each evaluative category were studied. These categories were true-false, meaningless-meaningful, and believing-skeptical. The means for each of the evaluative dimensions were compared for group I and group II before, group I and II after, and between the before and after scores of the individual groups. As shown in Table 10, when the results of the before test were compared by evaluative dimension, there was no significant difference between the two groups for any of the categories. There was no significant difference in the F distribution when item twenty-two was included in the computations; however, when this item was omitted, there was a significant F

TABLE 10

COMPARISON BY EVALUATIVE DIMENSION - BEFORE

Dimension	't'	F	p
With #22			
True	less than one	1.70	
Meaningful	less than one	1.14	
Believe	0	1.02	
Total	0.420	1.46	
Without #22			
True	1.16	1.87 (II)	less than .05
Meaningful	less than one	2.15 (II)	less than .05
Believe	less than one	1.09	
Total	0.54	1.47	

at better than the .05 level of confidence for both the true-false and meaningful-meaningless dimensions. Therefore, when the comparison of means for these two dimensions was computed the significant F was taken into consideration and a comparison of means for unknown but presumed unequal population variances was used.

When the comparisons were made of the evaluative dimensions on the post-test, a significant difference in

favor of group II was noted at better than the .025 level of confidence for the true-false dimension both with and without item twenty-two. For the meaningful-meaningless dimension a significant difference was noted at better than the .005 level of confidence, again in favor of group II. However, no significant difference was apparent for the believing-skeptical dimension (Table 11). In attempting to explain the difference in response for the true-false and meaningful-meaningless dimension but not in the believing-skeptical dimension, one might postulate that this difference is related to a possible deviation in the instruction. That is, the material was so stressed in the classroom lecture situation that facts were more accessible and more easily retained so that they were parrotted back, thus, showing up on the true-false and meaningful-meaningless dimensions, but that this material was not internalized to any greater extent than by the television group. Therefore, there was no significant difference in the degree of change of basic attitudes and beliefs. If there was a change of stress, it was unintentional on the part of the instructor as every effort was made to equalize the two lectures. However, the instructor was aware of an audience-speaker circular response in the classroom situation. This was mentioned in the procedure when the difference in time between the two lecture situations was discussed.

TABLE 11

COMPARISON BY EVALUATIVE DIMENSION - AFTER

Dimension	t	p	F
With #22			
True	2.08 (II)	less than .025	1.13
Meaningful	3.36 (II)	less than .005	1.13
Believe	less than one		1.03
Total	2.46 (II)	.02	1.06
Without #22			
True	2.02 (II)	less than .025	1.06
Meaningful	3.44 (II)	less than .005	1.16
Believe	less than one		1.19
Total	2.36	.05	1.14

It can not be definitely stated that this was the cause for the difference between the two groups. Rather it presents the question, why did any difference exist between these two groups, or, if a difference was present, why did it favor the classroom lecture rather than the television lecture when other research comparing the two

methods of presentation revealed either no difference or a difference in favor of television. In considering this question, it is necessary to refer to the discussion in Chapter I of the various research studies. In this discussion it was brought out that adequate controls either in terms of sampling or environment were not used. Consideration might be given the possibility that when the "true" classroom lecture situation utilizing a small audience is compared with television, the advantages which are attributed to television, i.e. the closeup of charts and demonstration material, the front row seat, are offset by the personal contact found in the classroom.

To summarise the findings relative to the pre- and post-test results for the two groups, it can be stated that both groups demonstrated a highly significant change in attitudes and beliefs regarding speech and language behavior in infants from zero days to one year of age following their particular lecture. On the pre-test, there was no significant difference between the two groups. However, on the post-test, the lecture group demonstrated a significantly greater change in attitudes and beliefs than the television group.

In reviewing the results of Part II of the post-test, a qualitative study was done using percentages. Wherever a noticeable difference in percentages occurred

between the two groups, the significance of the difference was tested. Part II of the post-test contained sixteen questions pertaining to the subjects reactions to the particular lecture they attended and to the material presented (Appendixes VI and VII). A choice of answers was provided in thirteen of the questions while three were open-end type questions.

Question one of post-test II asked the subjects to rate the program or lecture on a five point scale ranging from very good through very poor. Table 12 shows these results. Twenty-four individuals representing sixty-nine per cent of the television group rated the program as very good while twenty-five individuals representing ninety-three per cent of the classroom lecture group rated the lecture

TABLE 12

QUESTION 1

Thought lecture was:	TV Group		Lecture Group		Difference	
	No.	%	No.	%	t	p
1. Very Good . . .	24	69	25	93	2.61	.01
2. Good.	9	25	2	07	2.05	.025
3. Fair.	2	06	0	00	1.50	
4. Poor.	0	00	0	00		
5. Very Poor . . .	0	00	0	00		

as very good. Nine individuals representing twenty-five per cent of the television group reted the program as good while two individuals representing seven per cent of the lecture group reted their lecture es good. Two individuals representing eix per cent of the television group rated the progrem es feir. A 't' ratio for the significence of the difference in percentages was computed for very good, good, and fair retings. The difference in percentages obtained for the very good reting wes significant at the .01 level of confidence. The difference obtained for the good reting was significant at the .025 level of confidence while the difference obtained for the fair reting wee not significant.

Teble 13 shows the reeults of queetion two. This question aeked whether or not the individuals would be interested in the complete series. Ninety-seven per cent

TABLE 13

QUESTION 2

Interested in series:	TV Group		Lecture Group	
	No.	%	No.	%
1. Would be	34	97	26	96
2. Would not be	01	03	01	04

of the television group and ninety-six per cent of the lecture group stated that they would be interested in hearing the entire series. Three per cent of the television group and four per cent of the lecture group stated they would not be interested in the rest of the series.

As shown in Table 14, seventy-four per cent of the television group and sixty-three per cent of the lecture group believe they have people in their neighborhood who would be interested in such a series. Twenty-three per cent of the television group and thirty-seven per cent of the lecture group did not believe they had individuals in their neighborhood who would be interested in such a series. The remaining three per cent of the television group reported they did not know whether or not there were any interested parties in their neighborhood. The differences in the percentages between the two groups did not prove to be significant.

TABLE 14

QUESTION 5

Have people in neighborhood interested in series.	TV Group		Lecture Group		Difference	
	No.	%	No.	%	t	P
1. Do	26	74	17	63	.93	—
2. Do not	08	23	10	37	1.19	—
3. Don't know	01	03	00	00		—

Seventy-seven per cent of the television group and eighty-one per cent of the lecture group stated they had a friend who should receive this information (Table 15), while twenty per cent of the television group and nineteen per cent of the lecture group did not have a friend who should receive such information. Three per cent of the television group or one individual did not answer the question.

TABLE 15

QUESTION 6

Have friend who needs this information.	TV Group		Lecture Group	
	No.	%	No.	%
1. Do	27	77	22	81
2. Do not	07	20	05	19
3. No answer.	01	03	00	00

The groups were asked whether or not they would listen if a series on speech and language development of children were presented over radio. Fifty-seven per cent of the television group and fifty-six per cent of the lecture group stated that they would listen if the material were presented on radio. Thirty-seven per cent of the television group and forty-four per cent of the lecture group stated they would not listen if it were presented on radio. Two individuals in the television group, representing six

per cent, did not answer the question (Table 16).

TABLE 16

QUESTION 7

Listen if on radio:	TV Group		Lecture Group	
	No.	%	No.	%
1. Would	20	57	15	56
2. Would not	13	37	12	44
3. No answer	02	06	00	00

The next question was concerned with whether they felt this material could be presented better, as well, or not as well on radio. Neither group believed that it could be presented better on radio (Table 17). Eight individuals or twenty-three per cent of the television group thought it could be presented as well as on television while four per

TABLE 17

QUESTION 8

Presented on radio:	TV Group		Lecture Group			
	No.	%	No.	%	t	p
1. Better. . . .	00	00	00	00		
2. As well . . .	08	23	01	04	2.35	.01
3. Not as well .	27	77	26	96	2.35	.01

cent representing one individual from the lecture group believed it could be presented as well on radio as by lecture. This difference was significant at better than the .01 level of confidence. Twenty-seven individuals or seventy-seven per cent of the television group and twenty-six individuals or ninety-six per cent of the lecture group believed this material could not be presented as well on radio as by the particular method of presentation they had attended. A significant difference at the .01 level of confidence was obtained.

When asked whether this material could be presented better, as well, or not as well in a book, six per cent of the television group stated it could be presented better; fifty-seven per cent stated that it could be presented as well and thirty-seven per cent stated that this material could not be presented as well in a book (Table 18). Seven per cent of the lecture group stated that this material could be presented better in a book. Thirty-seven per cent stated it could be presented as well and fifty-six per cent stated it could not be presented as well in a book as in the lecture. A 't' ratio was computed to determine whether the differences in percentages between the two groups was significant. These differences did not prove to be significant.

TABLE 18

QUESTION 9

Presented in a book	TV Group		Lecture Group		Difference	
	No.	%	No.	%	t	p
1. Better	02	06	02	07		
2. As well.	20	57	10	37	1.60	—
3. Not as well. . .	13	37	15	56	1.51	—

The television group was asked whether this materiel could be presented better, as well, or not as well in a lecture series, while the lecture group was asked if this materiel could be presented better, as well, or not as well over television. The results are shown in Table 19. Nine per cent of the television group felt the material could be presented better in a lecture while eleven per cent of the lecture group felt it could be presented better on television. This difference was not significant. Sixty per cent of the television group stated it could be presented as well, and thirty-one per cent stated it could not be presented as well in a lecture series. Eighty-five per cent of the lecture group stated this materiel could be presented as well on television and only four per cent, representing one individual, felt the material could not be presented as well on television as in a regular lecture

series. These differences were significant at the .025 and .005 levels of confidence.

TABLE 19

QUESTION 10

Presented as (a) Lecture (b) TV	TV Group (a) No.	%	Lecture Group (b) No.	%	Difference t	p
1. Better	03	09	03	11	.26	—
2. As well.	21	60	23	85	2.31	.025
3. Not as well. . .	11	31	01	04	3.10	.005

Table 20 indicates the per cent of each group which would attend a lecture series on speech and language development in the preschool child. Twenty-six per cent of the

TABLE 20

QUESTION 11

Attend lecture series	TV Group No.	%	Lecture Group No.	%	Difference t	p
1. Yes	09	26	08	30	.34	—
2. Some.	06	17	10	37	1.78	.05
3. No.	11	31	00	00	3.97	.0005
4. Don't know. . . .	09	26	09	33	.60	—

television group reported they would attend such a series of lectures, seventeen per cent reported they would attend some of the lectures, thirty-one per cent reported they would not attend, and twenty-six per cent reported they did not know whether they would attend a lecture series on this subject.

In the lecture group, thirty per cent indicated they would attend such a lecture series, thirty-seven per cent said they would attend some of the lectures and thirty-three per cent said they did not know whether they would attend any of the lectures. The difference between the two groups for those individuals reporting they would not attend a lecture series was significant at better than the .0005 level of confidence. A significant difference at the .05 level of confidence was obtained for those individuals reporting they would attend some of the lectures.

When asked whether a series of television programs on speech and language development should be presented over KUHT, ninety-four per cent of the television group and one hundred per cent of the lecture group responded in the affirmative. The results of this question are indicated in Table 21. Eighty-nine per cent of the television group and ninety-six per cent of the lecture group stated they would watch the series if it were presented (Table 22).

TABLE 21

QUESTION 12

Series on KUHT:	TV Group		Lecture Group	
	No.	%	No.	%
1. Feel	33	94	27	100
2. Do not feel.	02	06	00	00

TABLE 22

QUESTION 13

Watch the series:	TV Group		Lecture Group	
	No.	%	No.	%
1. Would	31	89	26	96
2. Would not	04	11	01	04

In response to question fourteen which asked whether they would be interested in reading a book on this subject, eighty per cent of the television group would be interested and twenty per cent would not be interested in reading such a book. Eighty-one per cent of the lecture group stated they would and nineteen per cent stated they would not be interested in reading a book on this subject (Table 23).

While a high percentage of both groups indicated they would watch a television series devoted to speech and language development in the preschool child, neither group

TABLE 23

QUESTION 14

Interested in book	TV Group		Lecture Group	
	No.	%	No.	%
1. Would	28	80	22	81
2. Would not	07	20	05	19

indicated they were interested in enrolling in a television course on this subject. As indicated in Table 24, thirty-one per cent of the television group and thirty-three per cent of the lecture group indicated they would enroll in such a telecourse while sixty-nine per cent of the television group and sixty-seven per cent of the lecture group stated they would not enroll in a telecourse on this subject.

TABLE 24

QUESTION 15

Interested in telecourse:	TV Group		Lecture Group	
	No.	%	No.	%
1. Would	11	31	09	33
2. Would not	24	69	18	67

To review the findings for Part II of the post-test, the majority of both groups thought their particular presentation good or better. However, a significantly greater

per cent of the lecture group rated their program as very good. The members of both groups were interested in attending the rest of the series. The majority of both groups had friends or neighbors who they thought should receive this information. Slightly more than fifty per cent of both groups would listen if the matsrial were presented over radio. A significantly greater per cent of the lecture group than television group believed this material could not be presented as well over radio. More than fifty per cent of the television group believed that material on speech and language development could be presented as well in a book as on television, whereas more than fifty per cent of the lecture group did not believe it could be presented as well in a book as by lecture. Sixty-nine per cent of the television group believed the material could be presented as well or better in a lecture series while ninety-six per cent of ths lecture group stated the material could be presented as well or better on television. This represents a significant difference at better than the .0005 level of confidence.

Twenty-six per cent of the television group and thirty per cent of the lecture group indicatsd they would attend a lecture series devoted to this subject. However, the difference between the two groups for those reporting they would not attend a lecture series was significant at

better than the .005 level of confidence. A significant difference at the .05 level of confidence was obtained for those reporting they would attend some of the lectures.

Both groups were highly interested in having a series on speech and language development presented over the facilities of KUHT and a high percentage from both groups indicated they would watch the series if it were presented. Both groups also indicated they would be interested in reading a book on this subject but neither group was interested in enrolling in a telecourse devoted to speech and language growth.

Questions three, four, and sixteen on Part II of the post-test were open-end questions. They were concerned with what was liked or disliked about the program or lecture as well as what the individual would want included in a series. Table 25 indicates the response to these questions. In the television group, twenty-nine individuals, or eighty-three per cent of the group answered question three, sixteen individuals, or forty-six per cent, answered question four, and twenty-three persons, or sixty-six per cent, answered question sixteen. However, only four individuals, or eleven per cent, of the group answered both questions three and four. Nine persons, or twenty-six per cent, answered questions three and sixteen, and twelve persons,

or thirty-four per cent, answered all three questions. Nineteen individuals in the lecture group, representing seventy per cent, answered question three; eight, or twenty-nine per cent, answered question four; and seven, or twenty-six per cent, answered question sixteen. Only three individuals, representing eleven per cent of the group, answered questions three and four and three and sixteen while four individuals, or fifteen per cent, of the group answered all three questions.

TABLE 25

RESPONSE TO QUESTIONS 3, 4, & 16

Answered question	TV Group		Lecture Group	
	No.	%	No.	%
#3	29	83	19	70
#4	16	46	08	29
#16	23	66	07	26
#3 & 4	04	11	03	11
#3 & 16	09	26	03	11
#3, 4, & 16	12	34	04	15

The responses to these questions were reviewed and general categories were set up so that the responses could be tabulated. This tabulation appears in Tables 26, 27, and 28. The five things most frequently listed as liked in

the television program are speech development pattern, charts, presentation, everything, and clarity. The lecture group listed charts, preparation, organization, parents' role in the child's acquisition of speech, speech development pattern and clarity. Six individuals in the television group listed some phase of the material presented as the one thing they disliked about the program. These responses varied with several individuals stating they were not interested in the particular age level presented and they believed material relating to the two year old and above would be more interesting. Two individuals questioned the authenticity of some of the statements and one woman wrote that from her experience as a mother she knew that children did not begin to speak until they were eighteen months of age. Four individuals believed the program was a little too long. Only a few members of the lecture group responded to this question. However, three wrote they could find no criticism with the lecture.

Question sixteen brought forth a variety of responses with requests for information pertaining to speech difficulties appearing most frequently for both groups. Seventeen individuals from the television group and nine individuals from the lecture group comprising forty-two per cent of both groups asked for information on onset, cause, recognition, and sources of help for speech difficulties.

TABLE 26

QUESTION 3

Liked		TV	Lecture
1.	Charts	10	11
2.	Length	1	1
3.	Amount of information	0	1
4.	Presentetion	10	7
5.	Preparetion - organization	2	3
6.	Stimulating - interesting - informetive	0	5
7.	Hearing parente' role	0	3
8.	Speech development	11	5
9.	Examples	1	2
10.	Terminology	2	0
11.	Everything	8	3
12.	Nothing	0	0
13.	Clarity	8	4
14.	Percentages	1	0
15.	Recording	1	*
16.	Factual	2	1

*not presented

TABLE 27

QUESTION 4

	Disliked	TV	Lecture
1.	No question - answer period	0	2
2.	Lack of detail	1	1
3.	Too much detail	0	0
4.	Material presented	6	1
5.	Charts - too many	1	0
6.	Charts - not enough	0	0
7.	Length - too long	4	1
8.	Length - too short	0	1
9.	Terminology	1	0
10.	Presentation	1	0
11.	Everything	0	0
12.	Nothing	2	3
13.	Lacks variety in visual material	2	0
14.	Too much repetition	1	0
15.	Drawings	1	0

Six members of the television group also asked for corrective speech exercises.

In comparing the responses of the two groups, it is interesting to note that many more mothers who attended the

TABLE 28

QUESTION 16

	Want in series	TV	Lecture
1.	Guidance of your child through speech development	0	1
2.	Guidance of older child through speech development	0	1
3.	Speech difficulties, onset, cause, help recognition	17	9
4.	How to handle discipline and emotional problems	0	2
5.	Learning a second language	0	1
6.	Adult speech models other than parents	0	1
7.	Mouth structure	1	0
8.	Continued growth pattern	3	0
9.	From 2 to 6 years	1	0
10.	Supplementary reading	2	0
11.	Bilingualism	1	0
12.	Phonics	1	0
13.	Speech exercises (therapy-speech improvements)	6	1
14.	Don't know	1	0
15.	Vocabulary for preschool child	1	0
16.	Emotional growth and speech development	3	0

TABLE 28--Continued

	Want in series	TV	Lecture
17.	Influence of older children	1	0
18.	Parents' role in speech development	3	0
19.	Other forms of communication	2	0
20.	Encouraging book reading instead of TV	1	0

television presentation requested specific types of information than did those who attended the lecture presentation. This strongly suggests that the television presentation aroussd greater interest in the mothers than did the lecture presentation.

CHAPTER IV

SUMMARY AND CONCLUSION

Summary

The purpose of this study was to compare the results of a television and classroom lecture devoted to speech and language growth from zero days to one year of life. This comparison was made on the basis of presentation, audience acceptance, and audience gain. The latter was evaluated in terms of change in basic attitudes and beliefs regarding the lecture subject following receipt of the information. It was the hope of the investigator that from this comparison some insight might be gained relative to an effective means of reaching the parents of preschool children with material on normal speech and language growth and development which might serve as a preventive measure in the development of functional speech defects.

In order to make the comparison between these two methods of presentation, a group of mothers of preschool children was invited to come to the University of Houston campus to participate in the experiment. Sixty-two mothers appeared, twenty-seven attended the classroom

lecture while thirty-five viewed the television lecture through the facilities of KUHT, the educational television station of the University of Houston. The instructor was the same for both lectures. The two groups were well matched for age, education, socio-economic level, and the number of children in the family. Each mother had at least one preschool child.

Both groups of mothers were given the same test instrument before and after hearing the lecture. A second test was administered to the mothers following the lecture. This test asked for an evaluation of the type of presentation as well as a comparison of this means of presentation with other methods and media.

The results from the tests were tabulated and a statistical analysis was made of the data received from the pre-test and Part I of the post-test. A qualitative study using percentages was made of the results of Part II of the post-test. Wherever indicated, a 't' ratio for the significance of the difference in percentages was computed.

In setting up this experiment, the investigator attempted to establish a more rigid set of controls than had been used in previous research studies aimed at comparing the use of television and other media in adult education. Therefore, it is the investigator's opinion that the results of this study may present a more accurate

picture of the educational value of television.

Conclusions

1. When a comparison of group variables was made, there appeared to be little or no significant difference between the two groups. Therefore, the assumption can be put forth that the two samples were drawn from the same group.

2. No significant difference existed between means of group I and group II nor was any significant population variance noted. Therefore, it can be assumed that the two groups were matched for attitudes and beliefs regarding this subject prior to receiving the information presented in the lectures.

3. While there was no significant difference in population variance between the two groups on Part I of the post-test, a significant difference of the mean was noted at the .02 level of confidence with item twenty-two included and at the .05 level of confidence with item twenty-two omitted with group II having the larger mean score in both instances. Therefore, it can be concluded that the group receiving the information in the regular classroom situation demonstrated a significantly greater change in attitudes and beliefs relative to the growth and development of speech and language in the first year of

life than the group which received this information over television.

4. When a comparison was made between the before and after test results for each group, a significant difference of the means at better than the .0001 level of confidence was obtained for both groups. Therefore, it can be stated that while the lecture group demonstrated a significantly greater change than the television group, both groups showed a highly significant change in attitudes and beliefs toward the subject matter following receipt of the information.

5. The test results were broken down by evaluative dimension and comparisons were made between the groups for each dimension. When the results of the before test were compared by evaluative dimension, no significant difference was found between the two groups for any of the dimensions. Thus further support was offered to the conclusion that the two groups were equally matched for attitudes and beliefs regarding the subject matter prior to the lecture.

6. When comparisons were made by evaluative dimension for Part I of the post-test, a significant difference in favor of group II was noted at better than the .025 level of confidence for the true-false dimension and at better than the .005 level of confidence for the meaningful-meaningless dimension. No significant difference was apparent for

the believing-skeptical dimension. It can only be theorized as to why a difference in response was noted for the true-false and meaningful-meaningless dimensions while none existed for the believing-skeptical dimension. However, it can be postulated that the difference is related to a possible deviation in instruction. That is, the material was so stressed in the classroom situation that facts were acquired more readily but basic attitudes and beliefs were not changed to any greater degree than were those of the television group. If these results are interpreted in terms of potential carry-over and application of information received, the assumption might be made that the lack of difference between the two groups on the believing-skeptical dimension indicates there was no greater internalization of material by one group as opposed to the other. Therefore, the long range effects of the lectures would be equal. It is the opinion of the writer that further research should be conducted in this area.

7. More than ninety per cent of both groups said the lecture was good or better and they were interested in viewing a series on this subject.

8. More than sixty per cent of both groups stated they had people in their neighborhood who would be interested in either a lecture or television series on this subject.

Seventy-seven per cent of the television group and eighty-one per cent of the lecture group indicated they had a friend who needed to receive this information.

9. While fifty-seven per cent of the television group and fifty-six per cent of the lecture group indicated they would listen to a series on this subject if it were presented over radio, a significantly greater per cent of the lecture group stated that this material could not be presented as well by means of radio.

10. Eighty to eighty-one per cent of both groups indicated they would be interested in reading a book on the speech and language growth of children. However, only six to seven per cent of the subjects believed this material could be presented better in book form. Fifty-seven per cent of the television group and thirty-seven per cent of the lecture group indicated that the material could be presented as well in a book. This difference did not prove to be significant.

11. While sixty-nine per cent of the television group indicated that the material could be presented as well or better in a classroom lecture series, only twenty-six per cent said they would attend all of the series and seventeen per cent said they would attend some of the lectures. Ninety-six per cent of the lecture group stated

the material could be presented as well or better over television. Thirty-seven per cent of this group said they would attend some of the lectures if a lecture series were given while thirty per cent indicated they would attend the entire series.

12. Although eighty-nine per cent of the television group and ninety-six per cent of the lecture group said they would watch a television series on this subject, only thirty-one to thirty-three per cent of the subjects were interested in enrolling in a telecourse on speech and language growth of children.

13. Both groups indicated that they especially liked the charts which were used as visual aids. They also liked the presentation, clarity, language and speech developmental pattern, and the parents' role in the child's acquisition of speech. The criticism of the program was mainly directed toward the particular age level presented. Several mothers said they were more concerned with the two to five year age period.

14. A large number of the mothers asked for information pertaining to speech difficulties. They requested information on onset, cause, recognition, and where to receive help. Some asked for specific speech exercises which could be used in the home. The requests for speech

exercises ranged from exercises for speech improvement to speech correction measures. Such information was requested by many more mothers attending the television lecture than those attending the classroom lecture. This suggests that the television presentation aroused greater interest in the mothers than did the lecture presentation.

Application to a Preventive Speech Correction Program

The results of this study tend to support the hypothesis that facts on speech and language growth intended for mothers of preschool children are better received when presented in a regular classroom lecture than when this material is presented in lecture form on television. However, both television and classroom lecture presentation provide a highly significant change in attitudes and beliefs toward this subject. There appears to be no difference between the two methods of presentation in terms of the amount of internalization or acceptance of the material. Therefore, the difference obtained in favor of the lecture group does not rule out the use of television for adult education in the area of speech and language development. The tremendous audience, the willingness of the mothers to view a television series as opposed to attending a lecture series tends to offset this difference. It does suggest,

however, that further study should be conducted in an attempt to determine why this difference existed.

APPENDIX I

QUESTIONNAIRE

1. Has your station ever presented a telecourse in the field of Speech Correction? Yes____ No____.

   If answer to above is YES, how many programs were presented in the telecourse? _____. How long did the telecourse run?_____ _____. Year of presentation _____. Was the telecourse viewed mainly by; College Students _____, Parents_____, Both_____. How many were enrolled?_____.

   Did the telecourse include materials on Speech and Language Development in the Preschool Child? Yes_____ No_____.

   If answer to above is YES, how many lectures were devoted to this type of material? _____ _____.

   Was any survey made relative to the effectiveness of the telecourse method of presenting the material as opposed to presenting the same material in the regular classroom situation? Yes_____ No _____.

   If answer to the above is YES, please send brief on findings of survey and a description of the experimental design.

****

2. If your station has not presented a telecourse in the field of Speech Correction, has it ever presented a series of programs in the field of Speech Correction? Yes_____ No_____.

   If answer to above is YES, was it designed for parents _____ or for public in general _____?

How many programs were in the series? _____. How long did the series run?_____. Year of presentation_____. Estimate the number of viewers_____.

Did the series include materials on Speech and Language Development in the Preschool Child? Yes_____. No_____.

If answer to above is YES, how many programs were devoted to this type of material?_____.

If such a series was presented was any survey made relative to the effectiveness of the series? Yes_____ No_____.

If answer to above is YES, please send brief on findings of survey. Describe experimental design.

APPENDIX II

SPEECH AND LANGUAGE DEVELOPMENT SERIES

"Helping Your Child to Speak"

Program #1

"The First Word"

VIDEO	AUDIO
Slide #1	ANNCR: Good evening, this is "Help Your Child to Speak", a special series on Speech
Slide #2	and Language Development in the Pre-school Child. Tonight we present the first
Slide #3	program entitled "The First Word". Your instructor is

_____
name and title

_____
institution

Now here is _____.

INSTRUCTOR: Good evening. Before we can get into a discussion on speech and language development, it is important that we define our terms.

Chart #1

Language is every form of communication in which thoughts and feelings are symbolized. That is the written, spoken, sign, facial, gesture, pantomine, and art form.

Chart #2

Speech is merely one form of language in which spoken symbols, that is sounds or words, are used to convey thoughts.

Many people believe that language and speech abilities are instinctive in nature. This is far from true. While the infant progresses naturally from sitting to crawling, standing and finally walking, he does not progress from crying to babbling to talking without guidance and help. In other words, a child is taught to talk and in most instances, his parents are his teachers. Unfortunately, if the parents are not good teachers the child may become a speech cripple.

Chart #3

Surveys of children in public schools show that as many as 15% of the children from kindergarten to 4th grade have seriously defective speech and 4 to 5% of the children above the 4th grade have

e speech difficulty severe enough to require remediel work. Many children with speech difficulties are penalised in such subjects es reeding, spelling and English since language growth and speech serve as foundetions for these eubjects. Authorities in the field of speech correction stete that most of the functional speech problems in our schools can be traced back to the firet few years in a child'e life. Many euthorities ettribute thece speech problems to poor teaching by the parents.

Chert #4

If you es e parent, and in most instancee it is the mother, want to help your child, and I'm sure you do, to develop normal epeech, you must have some underetanding of the wey in which speech develops.

When the newborn infant informs the world of hie arrivel with e lusty cry, he hee, in e way, begun to speak. For the first two or three weeks of his existence, his vocalizetions sound the same no matter whet the eituation. Thie

expression is innate and takes place without intent or awareness on the part of the infant. If you observe the child, you will notice that he completely enters into the crying activity, the hands, feet, fingers, and toes participate in the crying. If you were to restrict his body activity, you would also lessen his crying. Some people have theorised that the reason that Indian babies cried very little was because their bodies were so tightly bound.

Toward the end of the 2nd or 3rd week of your child's life, the world begins to take on some form - he begins to see some order out of chaos and lets us know it by a vocal response. While the child's crying is still reflexive, there is some relation between the situation and the cry. For example, the baby is hungry, this hunger feeling is the result of certain muscular contractions in the stomach wall, these are accompanied by a change in the tonus of other muscles in the body, including

the muscles used in speech. Therefore, when the infant cries, he has a cry which is associated with his being hungry. And so it is with cold, heat, thirst, pain, and discomfort. The mother can now recognize the cries of her infant and in turn, the infant is using, in a broad sense, a kind of vocabulary. While this is still a reflexive action and without intent, the infant is beginning to control his environment through vocalizations, for it does not take even a very young infant long to discover he can get attention from crying. As the child develops the beginnings of expression, he also begins to be aware of the world of sound and the roots of auditory comprehension appear. When the infant is about 4 weeks old he will begin to react to sound.

Chart #5

Let us take a typical child and chart his speech and language as we discuss the various steges of development.

When the child is about 8 or 12 weeks old, he begins to be aware of sounds that he is making. The child has suddenly

found that making noise is fun, possibly to hear but mainly to feel. Therefore, when the infant is enjoying himself, he gurgles, coos and makes the sounds which we associate with vocal play. This is an important stage in the development of speech and language called babbling. Babbling is a delight for both the child and the parent. As the child develops an awareness of his own voice, he also listens to the speaking voice of another person.

While in the babbling stage of development, the child will produce more sounds than are available in the English language. In fact, he probably produces all of the sounds contained in all of the languages of the world. Therefore, when you wonder whether your child could possibly be speaking Chinese, you are probably right. There is no definite order for his acquiring sounds, but the chances are that he will produce vowels before consonants. By vowels, I mean such sounds as: 'ah', 'eee', 'oh', 'ay',

'ooo', etc. The 'ah' with variations will probably be heard first, he will soon add the 'p' and 'b' then the 't', 'd' and 'th' sounds, the 'k' and 'g' and finally the nasal 'n'. The child, when babbling, is unconsciously practicing his articulation, he is learning to manipulate his tongue, to produce sounds which he will need later on. In the early stages of babbling, your baby noisily sucks, clucks and coos to show how contented he is with life. This oral activity is mainly associated with tongue manipulation, movements associated with eating and swallowing, and the sense of feel. Gradually hearing begins to enter into the babbling, the infant becomes aware of the sounds. The sounds become more refined and are less like a person licking his lips after a fine meal. To differentiate between the early babbling sounds and the sounds which are associated with hearing, we call this later stage lalling. Lalling then is the repetition of heard sounds and appears during the third or fourth month of the

Chart #5

child's life. All infants, whether they hear normally or not, go through some form of the babbling stage. However, a severly hard of hearing or deaf infant will not develop sounds beyond the early babbling stage and he soon gives up these early sounds and sinks into his silent world because he cannot stimulate himself through his hearing mechanism.

The early comfort sounds, the clucks, coos and gurgles, still remain during part of the lalling period. If you watch your child closely when he is engaged in this new vocal play, you will find that sometimes he repeats his syllables in a whisper, other times he babbles loudly, sometimes he says them with wide eyed seriousness and at other times with a smile of delight. However, his repetitive 'eeeeeela, la, la, laya, eeiii's' are his to enjoy in private and any interruption will stop the flow of sounds. Since he needs these sounds, needs this private practice in order to lay a foundation for later speech development, don't

Recording of infant

rush in and interrupt. Listen if you must, but do not take part. No child can fight the world of adult verbal confusion,

Chart #6

imagine how overwhelmed you would feel if the positions were reversed.

You see it's sort of like trying to butt in on a bridge table conversation. Don't expect your child to compete with your over-verbalisations. As an adult, you are too loud, too talkative, and too demanding. Therefore, remember, when he is in this lalling stage, listen and enjoy it, aid him by meeting his physical and emotional needs and thus making him feel good so that he can express his contentment in verbal play. He cannot cry and babble at the same time and babbling is so much better for him. Besides, babbling and lalling are a lot nicer to listen to.

As the child passes into his second six month period, you will notice that his sounds become more refined, the vowels are clearer and more pronounced. Between 7

Chart #5

and 8 months, he begins to vocalize single

syllables, such as: 'da, ka, la,' and such bi-syllabic sounds as 'ma-ma,' and 'da-da.' Don't get too excited if he says 'ma-ma,' he is not calling you, it is still just a sound without meaning. However, he is making an important step forward, for up 'till now, he has been able to make a sound, hear it and repeat it, but he has been unable to repeat sounds presented to him by another person. At about 9 months of age, he takes two big steps forward. First, he is able to respond to his name and to the all important phrase 'no-no'. Second, he is able to imitate sounds presented to him. At last your role as a parent-teacher becomes more than one of setting the stage for vocal play. Now you too can enter into the game for the child is ready to imitate the sounds in his environment. We call this stage echolalia. At first the child experiments with the sounds he recognizes, those sounds which he made himself during the lalling and babbling stages. Soon he looks to greener fields and if the mood is

Chart #5

right, he'll attempt any tongue twister you place before him. It is important for you to enter into this vocal play with your child for in this manner you are preparing him for speech. But when you enter into this vocal play, enter into it at your child's level not as an overbearing adult. Don't bombard him with words and sounds. (Demonstrate) Just present the sounds in a simple manner.

As you and your child play together with sounds, you will begin to notice that he is copying not just your sounds but also the rhythm and intonation pattern of your speech. He will question you (buh, buh, buh-buh?), command you (daba da!) or complain (eee, ah, dabadeeee!). This is a signal that he soon will be saying his first word.

Before we discuss this first word, let's go back and talk a little about your child's comprehension, his understanding of language. In the early stages, his world of language involves

Chart #7

gesture, facial expression, emotional tone to the voice as well as a few simple words. He understands speech long before he uses it. In fact, throughout his life, his ability to comprehend will exceed his ability to express himself. Comprehension begins, in a way, when your infant cries and you attend to his needs. Comprehension is there when you coo or make loving sounds as you tend your baby and he smiles in answer to your demonstration of love. Comprehension is also there when you scold him in a rough or cross tone of voice. He does not understand the words but he senses something is wrong from the expression on your face, the tone of your voice and your gestures and manner in handling him. He learns to assign meaning to certain things in his confused world of sounds and vision. He knows that certain things represent pleasure and other things represent lack of pleasure. At about nine months he learns to respond to the verbal command 'no, no'. However, parents should

accompany or reinforce verbal communication with gesture for the first two years. In fact, the early commands which your child responds to (no, no, lie down, eat some more, etc.) probably are understood more from the accompanying gesture than from the words. (Demonstrate) Even we adults tend to rely on gesture in comprehending. For example, if I say; 'Yes' (Shaking head no at the same time), do you respond to the word or the shaking of the head?

If you want to experiment to see how important gesture and vocal tone are to meaning for your child, say to him in the tone you use for scolding and with the accompanying gestures, "Mama loves her baby!" and see if he reacts to the words of love or to the threatening tone of your voice and your gesture.

Chart #8

The first words which your child understands probably are, 'eat', 'bye-bye', 'bath' and 'ma-ma' and 'da-da'. This understanding is not as we adults know it. The child does not associate

the word with an activity, object or person, but rather with a state of being. The word is part of the confused world of sight, sounds, touch, taste and feeling.

To help your child understand, limit your talking. Use single words or short phrases repeated over and over again and always associated with the proper activity. Do not press your child to say them but try to get him to understand their meaning. I have referred previously to the cruel adult world of over-verbalization. Dr. Van Riper, with the father's assistance, succeeded in installing a wire recorder in the nursery of a home and recorded a mother's voice for an hour. Here is a small portion of what he recorded:

RECORDING - (Teching Child to Talk) Picture of Mother & Child

(pg 32-34 Teching Child to Talk)

Are you guilty of this? If so, try and remember, use single words or short phrases associated with the proper activity.

It is important to pause here for a moment and reflect----has the child had

any form of communication in this pre-speech period other than crying? Very definitely, he has had a gesture language which he has used very effectively and which left no doubts in the parents' minds as to what he was attempting to communicate. Commonly observed gestures during early babyhood include pushing the nipple from the mouth with the tongue, turning the head from the nipple, or allowing the milk to run out of the mouth - all of which show that the baby is not hungry. Smiling and holding out the arms indicate that baby wants to be picked up. Squirming, wiggling and crying during dressing and bathing show that the baby resents the restrictions to his activities.

Chart #9

Before we discuss your child's acquisition of true speech, let me remind you that while we have discussed speech development in terms of stages, these stages overlap and are not complete within themselves. Echolalia or imitation and even lalling continue long after the child has acquired real words.

The first words spoken by your child will either be a single syllable (da), or duplicated syllables (ma-ma). They will

Chart #5

ordinarily appear between 10-12 months of age, however, they may be as late as 18 months without causing undue concern. Girls, on the average, will acquire words one to two months earlier than boys.

You may ask why we now label these syllables as 'true speech' when earlier we described them as 'lalling' or 'echolalia'. The difference is in the child's reaction to the sound or sounds. They only become 'true' speech if the child uses them to designate a specific object. In other words, the child has learned to talk because he has used a word deliberately and purposefully with the intention of exerting a measure of control over his environment. Perhaps if we refer to Allport's drawings this will be clear.

Chart #10

These drawings have become a classic description of how children learn to say their first words.

A. The child stimulates himself to repeat a syllable by hearing it. In other words, he is in the lelling stage.

B. Adults who pronounce the same syllable stimulate the child and he repeats the syllable--the imitation or echolalia stage.

C. The child sees the object at the same time that someone pronounces the syllables and stimulates the child to repeat the syllable thus getting the child to associate the sylleble with the sound.

D. The child sees the object which stimulates the child to produce the syllable. And when he does this he has said his first word.

E. The next step is when the child says the word without the object being present. This single word may have a variety of meanings to him. 'da' may mean 'where is the doll', 'I want the doll', or 'pick my doll up off the floor'.

The infant's first words will not come up to adult standards, but they are meaningful to him and generally to the

adults around him.

When a child first takes a step, his parents are elated. They act as if this was the greatest accomplishment in the world, as if it should be headlined in all the papers. Little do they realize - the child's first word is a far greater achievement. And if viewed in terms of the importance placed on communicative ability in these times, this first word acquires even greater significance. Therefore, welcome your child's first word with all the joy and enthusiasm due this accomplishment and take pride in your role as teacher.

CLOSING:

Slide #3

ANNCR: You have just seen "The First Word". This was the first program in the

Slide #1

series titled "Help Your Child to Speak,"

Slide #2

a series designed to present information on Speech and Language Development in the Pre-School Child. Your instructor has been_____
name and title

---

inetitution

We invite all parents of pre-school children to be with us again next week at thie eame time.

APPENDIX III

Visual Aids Used with Television and Classroom Lecture

Chart 1

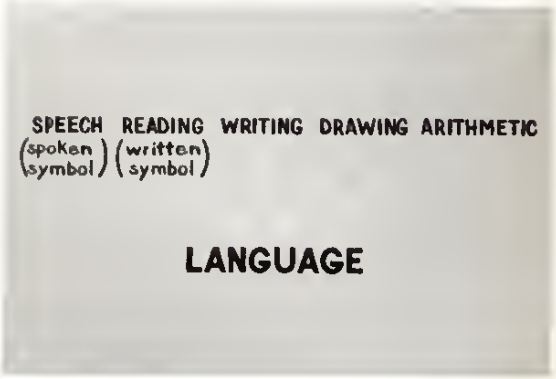

Chart 2

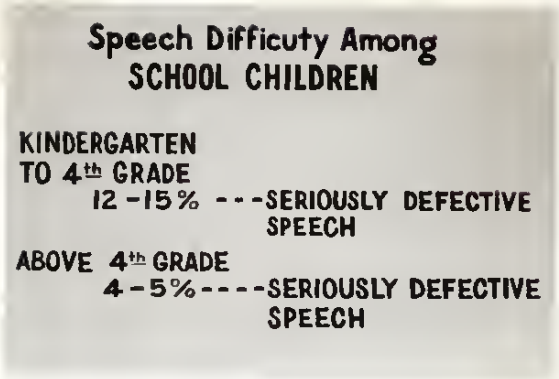

Chart 3

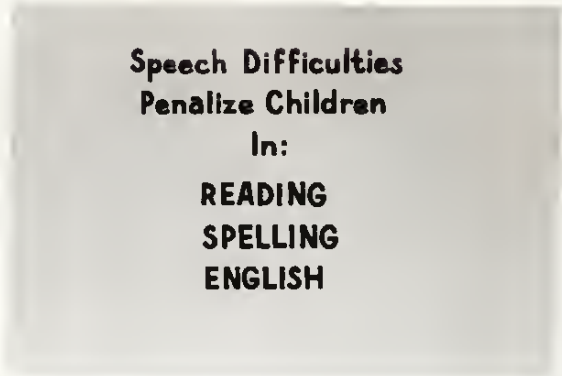

Chart 4

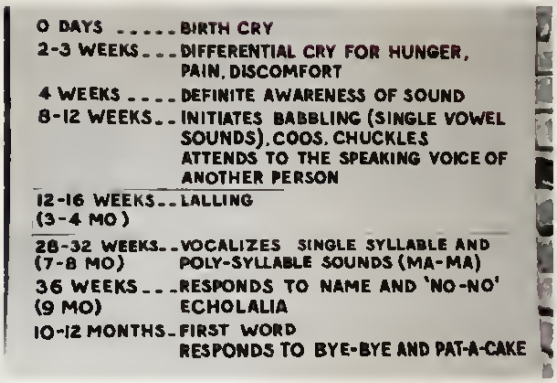
0 DAYS ..... BIRTH CRY
2-3 WEEKS... DIFFERENTIAL CRY FOR HUNGER, PAIN, DISCOMFORT
4 WEEKS .... DEFINITE AWARENESS OF SOUND
8-12 WEEKS.. INITIATES BABBLING (SINGLE VOWEL SOUNDS), COOS, CHUCKLES
ATTENDS TO THE SPEAKING VOICE OF ANOTHER PERSON
12-16 WEEKS.. LALLING
(3-4 MO)
28-32 WEEKS.. VOCALIZES SINGLE SYLLABLE AND
(7-8 MO) POLY-SYLLABLE SOUNDS (MA-MA)
36 WEEKS... RESPONDS TO NAME AND 'NO-NO'
(9 MO) ECHOLALIA
10-12 MONTHS. FIRST WORD
RESPONDS TO BYE-BYE AND PAT-A-CAKE

Chart 5

This chart was designed so that it could be used throughout the lecture. Removable panels covered the various age levels. These were removed when the particular age level was reached in the lecture. The total chart provided a summary of the material presented during the lecture.

Chart 6

EARLY LANGUAGE COMPREHENSION

GESTURE
FACIAL EXPRESSION
EMOTIONAL TONE OF VOICE
FEW SINGLE WORDS

Chart 7

EARLY GESTURE LANGUAGE

REFUSES FOOD

SMILING AND HOLDING OUT ARMS

SQUIRMING, WIGGLING AND CRYING

Chart 8

FIRST WORDS
CHILD UNDERSTANDS

EAT
BYE-BYE
BATH
MA-MA AND DA-DA

Chart 9

Chart 10

The above picture was used only with the television lecture. A close-up of this picture was held during the presentation of a recording of a mother talking to her infant.

APPENDIX IV

Schedule used by Interviewer

Name_____Mother's age_____

Address_____Father's age_____

Occupation: Father_____Mother_____

Schooling: Father_____Mother_____

Number of Children_____Ages_____

1. At what age did your child or children say its or their first word?

2. Did you feel this was early, late, normal?

3. Discuss how your child learned to speak.

4. Did you play an active role in teaching him to speak?

5. Do you feel you could have spent more time in teaching your child to speak?_____Explain.

6. Do you feel there is a readiness period for a child to learn to speak?

7. What, if any, information would you like to have regarding how your child learns to speak?

8. Would you watch a television series on speech and language development?

Additional comments:

APPENDIX V

Test I

Mother's age_____ Father's age_____

Mother's education_____ Father's education_____

Mother's employment_____ Father's employment_____

Number, age and sex of children_____

We would like you to judge a number of assertions on speech and language development against various descriptive scales. In taking this test, please make your judgements on the basis of what these statements mean to you. Each item will have a scale beneath it. You are to rate the statement on this scale.

Here is how you use the scale:

If you feel that the statement is very closely related to one end of the scale, you should place your check-mark as follows:

True _X_: ___: ___: ___: ___: ___: ___: False

True ___: ___: ___: ___: ___: ___: _X_: False

If you feel the statement is quite closely related to one or the other but not extremely, you should place your check-mark either:

Meaningful ___: _X_: ___: ___: ___: ___: ___: Meaningless

Meaningful ___: ___: ___: ___: ___: _X_: ___: Meaningless

If you feel the statement is only slightly related to one side as opposed to the other then you should check either:

Believing ___: ___: _X_: ___: ___: ___: ___: Skeptical

Believing ___: ___: ___: ___: _X_: ___: ___: Skeptical

If you think the statement to be neutral on the scale (both sides of the scale equally associated with it), or if the scale is completely unrelated to the statement, then place your check-mark in the middle space.

True ___: ___: ___: _X_: ___: ___: ___: False

PLEASE BE SURE AND:

1. Place your check-marks in the middle of the spaces.

2. Check every item - do not omit any.

3. Never put more than one check-mark on a single scale.

4. Do not look back and forth through the items. Do not try and remember how you check similar items earlier in the test. Make each item a separate and independent judgement.

5. Work as fast as you can. Give your first impression or feelings, do not worry or puzzle over items.

---

1. A child begins speaking between 12-14 months.

True ___: ___: ___: ___: ___: ___: ___: False

2. A child did not hear speech so he did not learn to talk.

Meaningful ___: ___: ___: ___: ___: ___: ___: Meaningless

3. Crying is a form of language.

Skeptical ___: ___: ___: ___: ___: ___: ___: Believing

4. A parent should not use gesture when talking to an infant or young child.

Meaningful ___: ___: ___: ___: ___: ___: ___: Meaningless

5. Excessive crying interferes with learning to talk.

False ___: ___: ___: ___: ___: ___: ___: True

6. Children learn to talk better from associating with other children than with adults.

Believing ___: ___: ___: ___: ___: ___: ___: Skeptical

7. An infant controls his environment through crying.

True ___: ___: ___: ___: ___: ___: ___: False

8. A child reacts to sound from the time he is 0 days old.

Meaningless ___: ___: ___: ___: ___: ___: ___: Meaningful

9. During the first two or three weeks the infant's cry is the same no matter what the situation.

Believing ___: ___: ___: ___: ___: ___: ___: Skeptical

10. An infant makes sounds other than crying because it feels good.

Meaningful ___: ___: ___: ___: ___: ___: ___: Meaningless

11. A child begins to pay attention to the speaking voice of another person at the same time that he becomes aware of his own voice.

True ___: ___: ___: ___: ___: ___: ___: False

12. While babbling, a child produces more than the sounds used in the English language.

Believing ___: ___: ___: ___: ___: ___: ___: Skeptical

13. A child babbles when he is contented.

Meaningful ___: ___: ___: ___: ___: ___: ___: Meaningless

14. Crying interferes with babbling.

False ___: ___: ___: ___: ___: ___: ___: True

15. Deaf children babble.

Skeptical ___: ___: ___: ___: ___: ___: ___: Believing

16. You should interrupt your child's babbling.

True ___: ___: ___: ___: ___: ___: ___: False

17. You should talk constantly to your infant.

Meaningless ___: ___: ___: ___: ___: ___: ___: Meaningful

18. 'Ma-ma' and 'Da-da' are a child's first words.

Believing ___: ___: ___: ___: ___: ___: ___: Skeptical

19. It is instinctive for children to talk.

False ___: ___: ___: ___: ___: ___: ___: True

20. Crawling, walking and speech develop in the same manner.

Meaningful ___: ___: ___: ___: ___: ___: ___: Meaningless

21. A child learns to respond to 'no-no' and his name at about the same time.

True ___: ___: ___: ___: ___: ___: ___: False

22. It is important for a parent to enter into vocal play with their child.

Skeptical ___: ___: ___: ___: ___: ___: ___: Believing

23. An infant gets more understanding from gesture, facial expression and tone of voice than from words.

Meaningful ___: ___: ___: ___: ___: ___: ___: Meaningless

24. There is a readiness period for learning to speak.

True ___: ___: ___: ___: ___: ___: ___: False

25. The first words a child understands are associated with a state of being.

Believing ___: ___: ___: ___: ___: ___: ___: Skeptical

26. Use single words or short phrases when talking to an infant under a year old.

Meaningless ___: ___: ___: ___: ___: ___: ___: Meaningful

27. A child learns to communicate his needs through gesture before he learns to speak.

Believing ___: ___: ___: ___: ___: ___: ___: Skeptical

28. Hearing is essential to the development of speech.

False ___: ___: ___: ___: ___: ___: ___: True

29. A child can imitate sounds at 4 months of age.

Meaningful ___: ___: ___: ___: ___: ___: ___: Meaningless

30. Inhibiting a baby's bodily action increases his crying.

Believing ___: ___: ___: ___: ___: ___: ___: Skeptical

31. Children learn to talk better from associating with other children than with adults.

True ___: ___: ___: ___: ___: ___: ___: False

32. You should interrupt your child's babbling.

Believing ___: ___: ___: ___: ___: ___: ___: Skeptical

33. An infant controls his environment through crying.

Meaningful ___: ___: ___: ___: ___: ___: ___: Meaningless

34. A child babbles when he is contented.

False ___: ___: ___: ___: ___: ___: ___: True

35. There is a 'readiness period' for learning to speak.

Meaningful ___: ___: ___: ___: ___: ___: ___: Meaningless

36. During the first two or three weeks, the infant's cry is the same no matter what the situation.

True ___: ___: ___: ___: ___: ___: ___: False

37. Deaf children babble.

Meaningful ___: ___: ___: ___: ___: ___: ___: Meaningless

38. You should talk constantly to your infant.

Believing ___: ___: ___: ___: ___: ___: ___: Skeptical

39. Crying interferes with babbling.

Meaningless ___: ___: ___: ___: ___: ___: ___: Meaningful

40. A child begins to pay attention to the speaking voice of another person at the same time that he becomes aware of his own voice.

Skeptical ___: ___: ___: ___: ___: ___: ___: Believing

41. A child begins speaking between 12-14 months of age.

Meaningful ___: ___: ___: ___: ___: ___: ___: Meaningless

42. A child learns to communicate his needs through gesture before he learns to speak.

True ___: ___: ___: ___: ___: ___: ___: False

43. Excessive crying interferes with learning to talk.

Believing ___: ___: ___: ___: ___: ___: ___: Skeptical

44. Crying is a form of language.

False ___: ___: ___: ___: ___: ___: ___: True

45. The first words a child understands are associated with a state of being.

True ___: ___: ___: ___: ___: ___: ___: False

46. A child reacts to sounds from the time he is 0 days old.

Believing ___: ___: ___: ___: ___: ___: ___: Skeptical

47. A child can imitate sounds at 4 months of age.

False ___: ___: ___: ___: ___: ___: ___: True

48. Hearing is essential to the development of speech.

Meaningful ___: ___: ___: ___: ___: ___: ___: Meaningless

49. A child learns to respond to 'no-no' and his name at about the same time.

Believing ___: ___: ___: ___: ___: ___: ___: Skeptical

50. A child did not hear speech so he did not learn to talk.

True ___: ___: ___: ___: ___: ___: ___: False

51. An infant makes sounds other than crying because it feels good.

Skeptical ___: ___: ___: ___: ___: ___: ___: Believing

52. While babbling, a child produces more than the sounds used in the English language.

Meaningless ___: ___: ___: ___: ___: ___: ___: Meaningful

53. A parent should not use gesture when talking to an infant or young child.

True ___: ___: ___: ___: ___: ___: ___: False

54. An infant gets more understanding from gesture, facial expression and tone of voice than from words.

Believing ___: ___: ___: ___: ___: ___: ___: Skeptical

55. 'Ma-ma' and 'da-da' are a child's first words.

Meaningful ___: ___: ___: ___: ___: ___: ___: Meaningless

56. It is important for a parent to enter into vocal play with their young child.

True ___: ___: ___: ___: ___: ___: ___: False

57. Inhibiting a baby's bodily action increases his crying.

Meaningful ___: ___: ___: ___: ___: ___: ___: Meaningless

58. Crawling, walking and speech develop in the same manner.

False ___: ___: ___: ___: ___: ___: ___: True

59. It is instinctive for children to talk.

Skeptical ___: ___: ___: ___: ___: ___: ___: Believing

60. Use single words or short phrases when talking to an infant under a year old.

True ___: ___: ___: ___: ___: ___: ___: False

61. Crawling, walking and speech develop in the same manner.

Believing ___: ___: ___: ___: ___: ___: ___: Skeptical

62. Crying is a form of language.

Meaningless ___: ___: ___: ___: ___: ___: ___: Meaningful

63. A child reacts to sound from the time he is 0 days old.

True ___: ___: ___: ___: ___: ___: ___: False

64. Crying interferes with babbling.

Believing ___: ___: ___: ___: ___: ___: ___: Skeptical

65. An infant makes sounds other than crying because it feels good.

True ___: ___: ___: ___: ___: ___: ___: False

66. Hearing is essential to the development of speech.

Skeptical ___: ___: ___: ___: ___: ___: ___: Believing

67. Use single words or short phrases when talking to an infant under a year old.

Meaningful ___: ___: ___: ___: ___: ___: ___: Meaningless

68. A child begins to pay attention to the speaking voice of another person at the same time that he becomes aware of his own voice.

Meaningful ___: ___: ___: ___: ___: ___: ___: Meaningless

69. 'Ma-ma' and 'da-da' are a child's first words.

True ___: ___: ___: ___: ___: ___: ___: False

70. Deaf children babble.

False ___: ___: ___: ___: ___: ___: ___: True

71. You should interrupt your child's babbling.

Meaningful ___: ___: ___: ___: ___: ___: ___: Meaningless

72. A child babbles when he is contented.

Believing ___: ___: ___: ___: ___: ___: ___: Skeptical

73. Children learn to talk better from associating with other children than with adults.

Believing ___: ___: ___: ___: ___: ___: ___: Skeptical

74. A child learns to communicate his needs through gesture before he learns to speak.

Meaningless ___: ___: ___: ___: ___: ___: ___: Meaningful

75. A child did not hear speech so he did not learn to talk.

Believing ___: ___: ___: ___: ___: ___: ___: Skeptical

76. It is instinctive for children to talk.

Meaningful ___: ___: ___: ___: ___: ___: ___: Meaningless

77. While babbling, a child produces more than the sounds used in the English language.

True ___: ___: ___: ___: ___: ___: ___: False

78. During the first two or three weeks, the infants cry is the same no matter what the situation.

Meaningful ___: ___: ___: ___: ___: ___: ___: Meaningless

79. An infant gets more understanding from gesture, facial expression and tone of voice than from words.

True ___: ___: ___: ___: ___: ___: ___: False

80. An infant controls his environment through crying.

Believing ___: ___: ___: ___: ___: ___: ___: Skeptical

81. Excessive crying interferes with learning to talk.

Meaningful ___: ___: ___: ___: ___: ___: ___: Meaningless

82. Inhibiting a baby's bodily action increases his crying.

True ___: ___: ___: ___: ___: ___: ___: False

83. A child can imitate sounds at 4 months of age.

Skeptical ___: ___: ___: ___: ___: ___: ___: Believing

84. The first words a child understands are associated with a state of being.

Meaningful ___: ___: ___: ___: ___: ___: ___: Meaningless

85. There is a 'readiness period' for learning to speak.

Believing ___: ___: ___: ___: ___: ___: ___: Skeptical

86. You should talk constantly to your infant.

True ___: ___: ___: ___: ___: ___: ___: False

87. It is important for a parent to enter into vocal play with their young child.

Meaningful ___: ___: ___: ___: ___: ___: ___: Meaningless

88. A child begins speaking between 12-14 months.

Believing ___: ___: ___: ___: ___: ___: ___: Skeptical

89. A child learns to respond to 'no-no' and his name at about the same time.

Meaningless ___: ___: ___: ___: ___: ___: ___: Meaningful

90. A parent should not use gesture when talking to an infant or young child.

Believing ___: ___: ___: ___: ___: ___: ___: Skeptical

APPENDIX VI

Test II A

1. I thought the lecture was (1) very good (2) good (3) fair (4) poor (5) very poor.

2. I (1) would, (2) would not be interested in seeing the rest of the lecture in the series.

3. State three things (if possible) that you liked most about this lecture.

1. _____

2. _____

3. _____

4. Now (if possible) list three things that you disliked most about this lecture.

1. _____

2. _____

3. _____

5. I (1) do (2) do not have people in my neighborhood who would be interested in attending a series of lectures on this subject.

6. I (1) do (2) do not have a friend who should attend a lecture of this kind.

7. I (1) would (2) would not listen if this series were presented over radio.

8. I think this material could be presented (1) better (2) as well (3) not as well on radio.

9. I think this material could be presented (1) better (2) as well (3) not as well in a book.

10. I think this material could be presented (1) better (2) as well (3) not as well in a Television series.

11. Would you attend a series of lectures if they were given in the school or some other public place? (1) yes (2) some (3) no (4) don't know.

12. I (1) feel (2) do not feel that a series of TV programs on speech and language development should be given over KUHT.

13. I (1) would (2) would not watch the series if it were presented.

14. I (1) would (2) would not be interested in reading a book on speech and language development in the preschool child.

15. I (1) would (2) would not be interested in enrolling in a telecourse on speech and language development of children if offered by the University.

16. I think information about the following should be included in the series. List.

APPENDIX VII

Test II B

1. I thought the program was (1) very good (2) good (3) fair (4) poor (5) very poor.

2. I (1) would (2) would not be interested in seeing the rest of the programs in the series.

3. State three things (if possible) that you liked most about this program.

1. _____

2. _____

3. _____

4. Now (if possible) list three things that you disliked most about this program.

1. _____

2. _____

3. _____

5. I (1) do (2) do not have people in my neighborhood who would be interested in viewing such a series.

6. I (1) do (2) do not have a friend who should view a program of this kind.

7. I (1) would (2) would not listen if this series were presented over radio.

8. I think this material could be presented (1) better (2) as well (3) not as well on radio.

9. I think this material could be presented (1) better (2) as well (3) not as well in a book.

10. I think this material could be presented (1) better (2) as well (3) not as well in a lecture series given at a school or some public place.

11. Would you attend a series of lectures if they were given in the school or some other public place? (1) yes (2) some (3) no (4) don't know.

12. I (1) feel (2) do not feel that a series of TV programs on speech and language development should be given over KUHT.

13. I (1) would (2) would not watch the series if it were presented.

14. I (1) would (2) would not be interested in reading a book on speech and language development in the preschool child.

15. I (1) would (2) would not be interested in enrolling in a telecourse on speech and language development of children if offered by the University.

16. I think information about the following should be included in the series. List.

APPENDIX VIII

April 11, 1958

Dear

KUHT, the educational television station at the University of Houston, would like you to help them evaluate a pilot program to a new television series on child development, stressing speech and language development in the preschool child. You would serve as a member of a special audience which would meet in Room 508, on the fifth floor of the Ezekiel Cullen Building at the Univereity of Houston. Please plan to be there by 6:15 p.m. on April 29th.

If you are interested in serving as a member of this group, please return the enclosed card.

We will greatly appreciate your help in this project.

Sincerely yours,

R. Ray Battin
Instructor
Department of Speech
University of Houston

RRB:ma
encl.

APPENDIX IX

April 11, 1958

Dear

The University of Houston would like you to help them evaluate a pilot program to a new lecture series on child development, stressing speech and language development in the preschool child. You would serve as a member of a special audience which would meet in Room 118, Science Building at the University of Houston at 6:45 p.m. on April 29th.

If you are interested in serving as a member of this group, please return the enclosed card.

We will greatly appreciate your help in this project.

Sincerely yours,

R. Ray Battin
Instructor
Department of Speech
University of Houston

RRB:ma
encl.

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BIOGRAPHICAL SKETCH

Roeabell Ray Battin was born May 29, 1925 in Rock Creek, Ohio, where she graduated from high school in June, 1943. She attended Kent State University from 1944 until June of 1945 when she joined the Women's Army Corps. She received her Bachelor of Arts degree from the University of Denver in 1948, her Master of Science degree from the University of Michigan in 1950, and her Doctor of Philosophy degree from the Univereity of Florida on August 8, 1959. Her major was speech pathology and her minor was psychology.

In 1949, she served as instructor-clinician in speech at the University of Denver. She was speech therapist at the Ann Arbor School in 1950 and 1951. During 1953 and 1954, she held a graduate assistantship in speech at the University of Florida. She was audiologist for the Houston Speech and Hearing Center from 1955 through 1957 when she joined the teaching staff at the University of Houston. In 1958, she became director of the Department for Communicative Disorders at Hedgecroft Hospital and Rehabilitation Center, Houston, Texas.

She holds advanced certification in speech and basic certification in hearing from the American Speech and Hearing Association. She is a member of Sigma Alpha Eta, The International Association of Logopedics and Phoniatrics, and the American Speech and Hearing Association.

This dissertation was prepared under the direction of the chairman of the candidate's supervisory committee and has been approved by all members of that committee. It was submitted to the Dean of the College of Arts and Science and to the Graduate Council, and was approved as partial fulfillment of the requirements for the degree of Doctor of Philosophy.

August, 1959

A H Gotaas
Dean, College of Arts and Sciences

Dean, Graduate School

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